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THE MARYLAND FARMER:

DEVOTED TO

Agriculture, Horticulture, and Rural Economy.

VOL. 8.

BALTIMORE, SEPTEMBER, 1871.

No. 9.

NOTES AND COMMENTARIES.

BY PATUXENT PLANTER.

The Season.

Part of April and all May our farmers were grumbling because the grass crops were ruined by the drought, and the planters complained that the tobacco plants were nearly all burnt up; and the gardeners feared the destruction of their truck, but lo! the rains came, and now a more profuse vegetation, a greater amount of vegetable growth was never seen. The corn and tobacco crops are superb, never better. All vegetables are in profusion and immense in size, while every variety of fruit, except apples, are abundant, though the stoned fruits are not good as usual, owing their tastelessness perhaps to the rains, and their small size to over-bearing. Grapes are superb this year. This year the nectarines and plums are larger and finer than they have been for a long time past. All the markets are crowded with fruits and the finest vegetables. The Trophy tomato is a prodigy in size and smoothness and solidity—it cuts like a beefsteak. How much money is lost to the grower of fruit by not selecting it and assorting it properly. It ought to be of full growth, not over or under-ripe, and carefully picked. A basket of peaches carefully assorted and in nice condition will bring \$2, while another with half of the fruit rotted or over ripe, small and defective, though the other half may be fine, would not bring enough to pay half the expense of picking and freight. It is strange more attention is not given to this matter. Time, labor and money would be saved by careful assorting and packing and handling of fruits of all kinds.

Public Roads.

There is no object on which so much money is expended with such little benefit to the public as the roads in our State. Our whole system is imperfect, and we want science and skill in those who

have them in charge. We have too many public roads, fewer and better would be more conducive to the convenience and comfort of the travelling public. We have too many of those dangerous little log bridges over the small ditches that cross the roads. They ought to be, and can be easily avoided, and save the cost of keeping them up, by grading the sides of the ditch to form an easy sloping gutter, and if the bottom be miry, dig down to the hard pan and fill up with stone or wood laid in cement. Once fixed it would last for years, while these wood and log *traps* for man, horse and carriage, are costly and all the time wanting repair. They are the true cause of broken axles, springs, wheels, lameness of horses, &c., though they be unsuspected by the parties who are damaged. They are nuisances and ought to be indicted as such by every grand-jury in the State.

Gilham's Tobacco Fertilizer

Manufactured by a Richmond Company, and for the first time, this year, introduced to the notice of Maryland tobacco planters. Several gentlemen in my section have tried it, and speak highly of its marked effects upon the crop. One gentleman who has been generally opposed to the use of manufactured manures, declares that where he used it, the tobacco in four weeks was twice the size of that growing along side, on which nothing was used except perhaps plaster. It is claimed for this article that it permanently benefits the soil—that the tobacco is brighter, heavier, tougher, more waxy, and silkier; that the wheat crop following the tobacco is increased to an amount more than repays the cost of this fertilizer on the tobacco, and also has a very beneficial effect on the clover sown with the wheat. It must be a valuable fertilizer for this "weed," if nothing else.

Will Lime Kill Sorrel?

Is a question often asked and just now being discussed in the agricultural journals. It is very ingeniously answered in the affirmative by plausible

arguments, more or less learned or scientific, but I answer bluntly in the negative, because long experience has furnished me with facts proving my answer to be correct. Lime fosters the growth of sorrel as much as it does clover or other plants. I have seen it growing luxuriantly where there had been a lime-kiln, and also where heaps of lime in the field had been, the year before. Nothing will destroy it, but several years continuous tilling the land in crops that require clean culture, high manuring and setting the land with a heavy coat of clover and other grasses. As great a pest as sorrel is, it is not half so bad as either Canada thistle, or the sand-burs, sometimes called san-grass.

**Southern Maryland and District of Columbia
Agricultural Society.**

This is the style of an Association lately formed in this county (Prince George's,) under a charter, for the promotion of agriculture. From the amount of stock already subscribed and the number of members, it may confidently be expected to hold its first meeting during the coming year 1872. It is designed to purchase land at or near the village of Huntington, at the junction of the main stem and Washington branch of the Baltimore and Potomac Railroad, which will soon be completed. It is contemplated to have extended grounds, ornamented and Park-like. Each year to hold a Cattle Show and Agricultural Fair, an annual sale of stock and Implement Fair. A meeting for Trotting races, and another for racing. In a word, owing to its peculiar location, it is believed it can be made a paying institution to the stockholders, and not only attractive to the visitors but of immense importance and benefit to farmers and breeders of fine stock. It is designed to be both a Pimlico to Baltimore and Annapolis, and to the District of Columbia what Jerome Park is to New York and Brooklyn, as it will not be more than ten miles by rail from Washington. Some wealthy and public spirited gentlemen have taken a deep interest in it and no doubt it will soon be inaugurated as a striking feature in the progressive improvements that are now rapidly developing in the whole of Southern Maryland, all of which is due in a greater or lesser degree to that spirit of enterprise which has been awakened by the building of the Baltimore and Potomac Railroad.

ROAD SCRAPING and composts of muck, earth and manure, applied in the fall, and pulverized over the surface with a harrow, together with the use of ashes, plaster and lime, all of which are available to farmers, will be found of service in keeping up a permanent pasture. And it is believed by taking a few acres annually and treating them with manures, better results will be obtained at less cost than in plowing and re-seeding.

For the Maryland Farmer.

**EXPERIMENTS WITH WHEAT, BONE DUST,
SOUTH CAROLINE BONE, THICK AND THIN
SEEDING, HOME MADE SUPER-PHOS-
PHATE, Etc.**

BY D. LAWRENCE.

While the *principles* which govern successful operations in agriculture, are generally uniform in their operation over all the country, the *processes* vary so much with climate, condition and character of soil and seed, demand, supply, and other controlling circumstances, that it is necessary for each locality to decide for itself, and for each farmer to decide for himself, what processes are best adapted to secure success in that particular locality, and on that particular farm. This can be done only by comparative experiments with the different processes suggested by the agricultural press. There are so many of these processes, each commended by its special advocate and supporters, that any evidence, however strong, is unreliable for individual action, until corroborated by individual experience. It is true the farm cannot be made a school of experiments, for various reasons. The dispatch necessary in planting and harvesting a crop, prevents the employment of that care and time in planting and harvesting, and variety in seeds and processes, which would be of great advantage if they could be made use of only to a limited extent. I will give a case from my own experience of an attempt, several years ago, to do too much in experimenting.

The question of raising potatoes was exciting a great deal of attention—as usual—and I wished to solve the question; so I planned some experiments covering an acre of ground. One row contained whole potatoes; another, halves; another, one eye; another, small potatoes; one row, a foot apart; another eighteen inches, &c, &c. When the time came to harvest the crop, I found that to report results accurately, would take an immense amount more of time and labor than I had anticipated, or could control; and the world lost the benefit of that effort, which is the reason, Mr. Editor, why the vexed question of potato raising was not finally (and awfully) settled years ago. Let me say a word about this matter of farm experiments.

Farming—properly so called—is the art of making money out of the land, and while every farmer should “experiment” more or less every year, the man that attempts to ascertain, by personal experience, the value of every new implement, or seed, or process which he may consider “a good thing,” will speedily enjoy the fruit of his labors in that delightful spot “where the woodbine twineth.”

Having the result of a small experiment of my own to communicate, I took the opportunity of inflicting the above remarks on the subject upon your readers, who, however, have the satisfaction of knowing that they can "repay in kind." Now for the wheat question. Alderman Mechi and others, in England, have been endeavoring to demonstrate the superiority of thin seeding (four or five pecks per acre) over thick seeding, (eight and ten pecks per acre,) and our distinguished friend, Benjamin Hallowell, mentions a field of wheat he saw in Pennsylvania, (seeded with five pecks per acre,) as one of the finest he ever saw. One of my fields was composed in great measure of one of those sandy "knobs," which apparently defy every means made use of to secure their fertility.

Upon this land I sowed five pecks per acre of Boughton wheat, and from the appearance and size of the straw, and plumpness and quality of the grain, I conclude that it received a sufficient quantity of seed. A portion of this field received only four pecks per acre, which was apparently as good as that which received more. A portion of the other field, sowed with the same variety of wheat, I divided into three lands; the first was sowed with raw bone phosphate; the second, with South Carolina bone phosphate; the third, with raw bone phosphate again. The wheat on the lands sowed with bone phosphate, (Horner's brand,) ripened first; all along the dividing row the higher and earlier heads of this land could be seen, a yellow streak across the field. With the exception of this slight difference, the South Carolina bone produced excellent results. The wheat stood well, wintered well, made a thick, strong straw, and a large, plump grain, and my conclusion from its results is this: I shall sow half my crop with it next fall—1871—having bones enough on hand for the other half.

It should be remembered that the S. C. bone is only one-half the cost of the bone dust, of which, and the preparation and cost of my manure, I will speak shortly:

On one land in this field the wheat was sowed at the rate of four pecks per acre; the others received five pecks, but four pecks were not enough, the vacant places indicating that more seed would have been an advantage: where five pecks per acre were sowed it was sufficient. The usual quantity of seed in this locality is six and eight pecks per acre. I will give another instance of the result of thin seeding, and spring cultivation of wheat, mentioned in our club meeting—of course, Mr. Editor, we have a Farmer's Club; every active, enterprising and intelligent neighborhood in Maryland has its Club, I presume. I cannot see how any *smart* people can get along without such a powerful lever in the cause of agricultural, social and intellectual regeneration,

as a well conducted Farmer's Club invariably proves itself:—Half a bushel of wheat was sowed on half an acre of land, in drills eighteen inches apart, and plowed and hoed once in the spring. Result, 28 bushels. Wouldn't it be well to look into the customs of our "ancient ancestors" a little more closely?

In regard to the action of the South Carolina bone, one of my neighbors tried it, and concluded that it acted equally well with the ordinary commercial bone dust. Now for my mode of preparation, and cost of the compound. In the May number of the *Maryland Farmer* details of manipulation were given, (page 137) and I desire to revise the recipe then advanced as follows, recommending in addition to the chemicals and fertilizing agents here given, that the manures made on the farm—mentioned in the same article—be carefully husbanded and incorporated in the compound. Use 300 to 500 pounds per acre.

Materials.	Pounds.	Cost.
South Carolina Bone.....	1000	\$12.50
Oil of Vitriol.....	160	4.10
Sulphate of Soda.....	160	1.50
Peruvian Guano, (1 Bag).....	160	6.25
Plaster, (1 bbl.).....	320	1.75
Potash, (Muriate).....	160	3.75
Dryer, (rich dry dirt, etc.).....	160	.00
	2000	29.75

Six hundred pounds of bone dust may be substituted for the South Carolina bone, and the Peruvian Guano and potash may be omitted, if enough farm made manure from the house, hennery, pig pen and ash vault can be secured to supply the place of the components of those articles.

HOW TO USE DEAD LEAVES.—The editor of the *Germantown Telegraph* says: The best way to dispose of dead leaves is to throw them into the pig pen, or use them as litter for cows. We have known them to be used all winter for the latter purposes. But they should of course be *dry*. If gathered in the fall instead of spring, and put under shelter, they will soon become dry enough for the cow-stable. Hogs work them up into manure in short order.

GROWING CUCUMBERS.—Benj. Sharpless, in the *Practical Farmer* gives his mode: "I have been very successful for several years past in raising cucumbers, by simply planting them on newly turned sod ground, and manning them in the hill with hen manure. I always leave a few hills in the richest corner of the corn field for the vines; and have not been troubled with the bugs since I adopted this plan. Formerly, when planted in the garden, it was a meracle if a few half eaten, stunted plants succeeded in growing; but now when I gather the first cucumbers, the seed-leaf will be often perfect."

The telegraph was invented by MORSE, in 1832.

EFFECTS OF COMMERCIAL FERTILIZERS.

Does Their Use Tend to the Improvement of the Soil?

I have a piece of ground of light soil that will produce only twenty bushels of potatoes, but by using phosphates I get seventy bushels. Does the phosphates alone make the fifty bushels, or does it serve to draw enough from the latent properties of the soil to make the crop? and if so, is not my land poorer for it.

REMARKS.—The questions of our correspondent are somewhat searching ones. The last two questions may be answered by the monosyllable, Yes. That brief reply, however, would not give a clear and satisfactory solution of the case. The application of the phosphate may be explained by a homely illustration. In drawing a load, if the whip is applied to the horse, the load is moved faster, but the power of the horse is sooner exhausted. So if a person uses a stimulant, he may accomplish more labor of brain, or of muscles and sinews, for a short period, than he could have done without it; but the power of brain and the other organs would sooner yield to the pressure.

It was *not*, we conceive, "the phosphate alone which made the fifty bushels of potatoes," but an accelerated action, caused by the phosphate, of all the elements in the soil which go to make up the potato. These elements *were* in the soil, in small degree perhaps, and dormant for want of some stimulating cause. They were not sufficient in quantity, or vigor, or were not sufficiently comminuted and mingled with each other to enable them to act in conjunction *with the elements of the atmosphere*, and so the crop was light.

"The successful growth of a crop or a field, proves that it has found in the air and in the soil the atmospheric and mineral constituents of its food in the proportions suitable for its nourishment. The failure of a crop on the same field indicates that in the soil there is something wanting which is necessary for its growth. In case of failure, therefore, we must look to the ground; the atmosphere is always ready to supply its portion of plant food." It is "nearly invariable in its composition at all times and over all parts of the earth's surface. Its power of feeding crops has, therefore, a natural limit, which cannot be increased by art.

"The soil on the other hand, is very variable in composition and quality and may be enriched and improved, or deteriorated and exhausted."

A soil may possess all the elements for plant nutrition and still not be a prolific one. This may come from several causes. First,

FROM TOO DRY A CONDITION OF THE SOIL.

If rain has been withheld for a long time, and evaporation excessive, there would be little action in

the soil, and crops would fail. If it were deep and rich in nitrogenous matter, it would hold out longer than a thin and poor soil, but would finally cease to sustain plants as poor in it grew less and less.

THE EFFECT OF TOO MUCH WATER.

The effect of a superabundance of water would be much the same as a want of it; each would prevent action in the soil, and hence no nutrition would be supplied to the plants standing in it. The same condition would affect animal life in a similar way. Water and air are indispensable to man, but if the former were present with him in great excess, or the latter were withdrawn, his vital functions would soon cease, and he would die. The same principles seem to us to be involved in plant and animal life.

Again, very much will depend upon the *mechanical* condition of the soil. The question naturally arises, was the land planted with potatoes in the same condition, with the exception of the addition of the phosphate? One hundred pounds of a fertilizer applied to a soil that is fine would probably be as efficacious as 200 or 300 pounds on a coarse lumpy soil. Baron Liebig explains this point so clearly that we give his words as follows:

"The *rapidity* with which a substance, such as a piece of sugar, is dissolved by a fluid, is in proportion to its state of *division*. By pulverization its surface is increased, and consequently the number of points augmented, which, in a given time, are brought in contact with the dissolving fluid. In all chemical processes of this kind, the action proceeds from the surface. An element of food in the soil acts by its surface, the portion beneath the surface is inactive, because it cannot be dissolved. Its effect, within a given time, increases with the quantity taken up by the plant during that time. Fifty pounds of bones may in one year produce, according to their state of division, the same effect as one, two or three hundred pounds coarsely ground. In the latter state it is by no means inefficient; but to act, that is, to become soluble, it requires a longer time. The effect produced by it is smaller, but it continues longer.

"To understand correctly the effect of the soil and its constituents or vegetation, we must keep steadily in view the fact, that the elements of food present in it always possess within themselves active powers, but *they are not always in condition to exert this power*. They are ready to enter into circulation, like a maiden to dance, but a partner is necessary."

By the foregoing, we think our correspondent may see pretty clearly—what he seems to anticipate in the phraseology of his question—that it is possible to render his land less fertile by the use of stimulants. Cases of this kind have been often recorded, where phosphates, guano, and other stimulating matter had been long applied, until nearly all action ceased in the soil, and it refused to bring a crop.

We have always been of the opinion that the moderate use of a pure "commercial fertilizer," sold at a fair price, could be made economical to most farmers. But it *must be* in connection with the common manures of the farm, good muck, and an abundance of other vegetable matter, in order to keep an ample bed of humus in which the concentrated manures may act.

It is said that lands in some portions of the Southern States have greatly degenerated in the use of concentrated manures. The system there of keeping stock does not admit of the saving of much manure; even if it did, the amount of stock kept is so small that all their manure would be of little account on their large plantations. Under these circumstances they resorted to the natural beds of fertilizers found in various portions of the country, and used it until the soil is depleted, inactive, dead. It must now lie barren, until Nature's processes impart life and vigor to it, or the hand of man turns it up to the light and air, and with clover, millet, or an abundance of other vegetable matter mingled with the soil, sets it into action again for the production of paying crops.

Now we come to the question, Is there not danger of adopting a system by which the ground must gradually lose the conditions of its fertility, by which it must be impoverished and exhausted? We think there is such danger. Our main resources must be within ourselves. Help, we can obtain, incidentally. So far, however, we have not managed our own means with that system of economy which would give us more ample returns. What manures we already have are capable of producing a two or four-fold action, by using them in a finer condition. So that they will mingle intimately with a fine soil, where the roots of plants may rove at will through them, and find all the supplies they need for a vigorous and perfect growth.

Let us, then, gather up every possible material that can be converted into manure, and preserve it until wanted for use, so as to retain all its qualities. Then work it over into a fine mass by the use of muck, loam or such other means as each one's circumstances will permit. Let us do this, and the seeming necessity of employing large quantities of commercial fertilizers will gradually disappear.—*N. E. Farmer.*

There is a sharp rivalry just now in Alabama among different guano dealers. One of them, by way of showing the superiority of his guano over any other, says that a farmer recently put a sample of it into his pocket, in which there happened to be a carpet tack, and started home on horse-back. Before reaching his house his steed broke down, and the farmer was at a loss to discover the cause until he found that the carpet tack had grown to be a long bar of railway iron.

The seed and grain for autumn sowing should be cleaned carefully and put in readiness for use. Oats may be mostly removed from wheat by putting the grain in a tub of strong brine and skimming. The wheat must then be spread thin, and dried quickly and well limed. It pays to have pure wheat seed.

ROTATION OF CROPS.

BY THE HON. GEORGE GEDDES.

The idea of preserving the fertility of land, and at the same time greatly increasing the aggregate of crops produced, by a judicious rotation, is quite modern.

In England great attention is paid to rotation, and many elaborate experiments have been made and reported in the agricultural works of that country, showing its importance and its influence in increasing the agricultural productions of the kingdom.

English writers have marked out with much care various systems of rotation of crops, giving the proper place to each, in view of the food it demands of the soil, and its power to appropriate the food that may be derived from the different stages of decomposition of the various manures used.

The only useful lesson we American farmers can derive from all this English knowledge is the proof that a proper rotation does preserve the fertility of the soil, and greatly increase its products, when the aggregate is considered.

The climate of England is so unlike ours that we must strike out for ourselves in laying down our plans of rotation. We have a climate that matures in its perfection the most valuable cereal, all things considered, that a beneficent Providence has given to man—that England cannot produce in the open air at all—I refer to maize or Indian corn, a native of our own country, and adapted, in its different varieties, to nearly every part of the United States.

Admirers of English systems of agriculture have long urged on the American farmers extensive cultivation of root crops. Though constantly urged thereto, the practical Yankee has gone on raising his Indian corn, well knowing that as a leading crop it was beyond all comparison of more value, in view of its cost, than any root crop, for his own food, or for food for his cattle, sheep and horses. Near cities root crops will be cultivated; but far away from markets, where land is comparatively cheap, the wise farmer will only produce roots for special purposes, such as food for ewes having lambs in early spring, or as a condiment for some pet animal. For special reasons, a farmer of my acquaintance has his lambs yeared in December and January, to the number of two or three hundred. This man raises about eight acres of roots to feed with his dry hay to the mothers of these lambs, and by the time grass comes the next spring, these lambs weigh fifty, sixty, or even more pounds each. This man can afford to do as he does, but his case is a very peculiar one.

The stalks of an acre of corn are generally considered by farmers in Central New York to be worth as much as an acre of hay to feed their stock in winter. The stalks should pay for the whole cost of the corn crop up to husking. The acre of grain should average not less than 2,500 pounds when dry. One pound of corn will feed a fattening sheep one day, and eight pounds will feed a fattening steer a day, the proper quantity of hay or other forage being given in each case.

The Illinois farmer is quite as likely to continue to raise great fields of corn, and to go on feeding it in his wasteful way, and totally neglect raising roots to feed his cattle, as the Englishman in Canada is to follow up his traditions and feed roots during his hyperborean winters. At any rate, all exhor-

tations to the Western corn-raisers on this point are useless, for he thinks he knows what he is about—and he does.

With these preliminary remarks we will discuss the question of rotation, counting Indian corn in, and root crops out.

OUR ROTATION.

First Year.—The land having been well seeded with timothy grass and medium red clover, the first crop taken is hay.

Much difference of opinion has existed, and perhaps still exists, as to the proper time to cut hay. This point has undergone such full discussion that it is not worth while to go over the ground at this time. I will assume that the proper time is when the plants have reached their greatest growth, which will be readily known by their being in full bloom. Timothy and medium clover do not arrive at this stage of growth at the same time, and of necessity one must be cut too early or the other too late. The clover being by far the most important is taken as the guide. But the farmer who has a large hay crop to make, cannot delay until even the earliest is quite ready. He must begin his haying a little early, and then he will finish it a little late in the season.

In Central New York, about the 20th of June haying commences, and on large farms occupies about one month of time. The best methods of conducting this important business I do not propose to discuss here, though I have some very positive notions in regard to them.

As soon as the hay has been removed from the ground the clover starts a new growth, and if gypsum is applied, and warm rains come, by the middle of the month of September there will ordinarily be a fine crop of seed matured and ready to cut. This seed crop has varied with us from one to seven bushels to the acre. It is not the custom here to cut this seed crop close to the ground, but to leave a very considerable portion standing. We do not wish to get much more than the heads, preferring to leave most of the stalks on the ground. Of course, in doing this we do not get all the seed.

In the seed crop the timothy shows but little, but it has helped make a good sod, and was of considerable value in the hay crop. The crop of hay should not average, for a series of years, less than two tons to the acre, weighed the next winter, and the seed crop should average three bushels to the acre.

This is the way we manage the first year of our rotation, taking two valuable crops.

Second Year.—This year is devoted to pasture, with the expectation that each acre will abundantly feed one cow in an ordinary season.

Gypsum sown about the first day of May on this pasture brings forward the white clover which abounds, *self-sown*, in our pastures, and the timothy and natural grasses will make a dense sod several inches thick, and the red clover roots will get to their greatest depth and size, such of them as are left.

Third Year.—Indian Corn.—About the 10th day of May plough the land in the most perfect manner possible, and deep enough to bring, on top of the reversed sod, a sufficient supply of soil that is not held too firmly together by the grass roots to allow of harrowing and marking without disturbing the sod. The roots of the red clover will be either cut off by the plough or drawn out by it. Six or seven inches will be about the best depth to give the ploughing.

Indian corn is a gross feeder, and will send its roots through the sod and down below it to a great depth, unless the subsoil is so hard they cannot penetrate it. As the grass roots decay they furnish food to this wonderful plant. I say wonderful, for in about one hundred days an immense crop of stalks, and perhaps 3,000 pounds of the richest grain (second only in its fattening powers to flaxseed) will be produced.

When the crop is sufficiently ripened, it should be cut near the ground and put in "stooks" to cure; and no cattle should be allowed to tramp over the field in the late autumn or early winter, to make tracks in and puddle the soil. In warm climates, where the larger varieties of corn are raised, this process of harvesting cannot be adopted, and on sandy or other loose soils it is not so important to keep the cattle off the field.

Fourth Year.—Barley or oats are sown on the corn-stubble, the ground being ploughed but once, but that one ploughing being done perfectly, after the ground has properly dried in the spring, cutting narrow deep furrows. Some farmers entertain the opinion that barley is the best crop to precede wheat. If the ground is clean, that is, free from Canada thistles and other bad weeds, it is; but, if the ground is not in first rate condition in this respect, oats are better.

Barley must be sown early to warrant the expectation of a good crop. Oats should be sown two weeks or so later than barley. By sowing an oat crop late, time is given for the thistles and other foul stuff to commence growing, and make quite a show above the ground before the ploughing; then a perfect ploughing does much for their extirpation, and the warm weather that at that time of the season may be reasonably expected, will force the oat crop forward, and give it greatly the start of the weeds, and thus the crop will out-top and keep under these pests. Another consideration is the character of the soil, in deciding whether barley or oats shall be selected for the crop of the fourth year. Barley delights in a clay soil, and but rarely does well on a quick, sandy soil.

Whichever of the crops may be selected, the treatment of the land after harvest is the same. The stubble being raked clean as possible from all the grain; if the land is not clear of the weeds, plough it, shallow, say four inches, at once, and harrowed as to insure the growth of all the grain left on the ground, and the bringing to the surface the roots of weeds. At this season of the year the sun is usually hot, and the weather dry; and six weeks of summer following in August and the forepart of September, properly managed, will do much toward freeing the land from even couch (quack) grass, especially if the roots are gathered by a strong steel-toothed horse rake, and then drawn off the field and destroyed.

If the land is free from foul stuff, the best course is to turn on the stubble sheep or young cattle, and let them pick off what they can, until near the time for sowing wheat, and then plough once perfectly, and harrow for the next crop, which will be wheat.

Fifth Year.—In the fall of the fourth year wheat was sown, and with it, by a device connected with the drill, six quarts of timothy seed. In the spring of the fifth year red clover is to be sown. When the wheat is harvested the ground should be all covered with clover and timothy, which are to make the meadow or hay crop of the first year of the next rotation.

This is the five-year rotation as practiced by the best farmers of my acquaintance, when no circumstances cause a modification—such, for instance, as the failure of the clover seed to take and grow well; or, perhaps, an uncommon demand in the market for some one crop.

Our farmers expect, as the proceeds of this five-year rotation, from each acre two tons of hay, three bushels of clover seed, the pasturage of one cow for a season, fifty bushels of corn, and the forage produced by the corn crop, forty bushels of barley, or fifty bushels of oats, as the case may be, and twenty to twenty-five bushels of wheat.

If the ground has previously been well tilled, and is not infested with foul weeds, each grain crop is raised by one ploughing. Land free from stone and all other obstructions, and that has been previously properly managed, can be perfectly cultivated by one ploughing, that is the furrow can be turned over and pulverized, if the right plough is used, and the right man has the holding of it.

Modifications of our Rotations.—To carry out strictly the five-year rotation we have to suppose the farm to be divided into five equal parts, and that the owner will find it to his interest to raise crops in just the proportion laid down. As has already been suggested, for various reasons this is not always so, and thus modifications from year to year are made—some of them will now be stated.

The yield of grass the first year after the wheat has been taken off, is much greater than it is the second year, that is, a larger crop of hay can be cut the first year; there is more clover this year than afterward. The convenience of the farmer often causes him to pasture the first year, until late in August, and then by one perfect ploughing turn in all the clover that he can, and sow wheat. By just this process we have produced crops of wheat at the least cost per bushel of any we have raised. A case occurs to me in which we treated a twenty-acre field in this way, and got thirty-three bushels to the acre. This was the cheapest wheat to us of any ever raised on the farm.

The next year this land went into barley, followed by wheat, when it was again seeded to grass.

It has, in some few instances, happened that wheat has been sown on wheat stubble, thus taking two wheat crops in succession, sowing grass seed on the second crop. But this can be justified only on land in high condition.

Various other modifications that will readily suggest themselves to the minds of grain-raising farmers, become necessary or very convenient. But the leading point is constantly kept in view. Fill the ground with clover roots, and the roots of grasses, as often as practicable, and then kill them with the plough, and convert their decomposed substances into grain.

A farmer, who is an entire stranger, writes me a long and valuable letter, making many important suggestions, for which I am obliged to him, and quotes from a former article of mine a sentence which he asks me to reprint, and put it in capitals, and as it expresses about what I want to say just here, I comply with his request—THE GRASS CROP IS THE BASIS OF ALL IMPROVEMENT, WHERE IT CAN BE MADE TO GROW WELL.

At what time in the Rotation should the Barn-yard Manure be applied?—For some years I have been trying to learn the best methods of taking care of and using barn-yard manure, and now I am ready

to confess my lack of knowledge in regard to this important matter.

Farmers that raise much grain, and keep a proper stock of sheep or cows to consume their coarse fodder, or, if not consume it, to trample it under foot during the winter, and get it in condition to be applied to the land, make immense quantities of manure that cost them much labor to handle, and it is always a matter of great interest to them to learn the best methods of doing this work. I do not propose to enter into the discussion of this topic now, but will state the practice most approved here.

Sheep are the best farm stock to manufacture manure. Properly wintered under sheds that can be closed against storms, having small yards connected with them, sheep will trample much straw under foot, and will dispose in like manner of the coarser part of the corn stalks so well, that twice or three times during the winter the manure can be drawn on sleds from the sheds and yards, and spread on the snow that then covers the pastures and ground designed for the next year's crop of corn. The manure must be quite fine to justify its being put on the ground designed for corn. Spread on pastures a bad flavor is given to the grass the next year, but aside from this objection, I know of no place where it does so much good. A pasture treated in the winter to raw, unfermented manure, will be so strong in grass, and the soil will become so rich that, whether ploughed the next summer for wheat, or after being one year grazed, and then put into corn, that the maximum yield may be reasonably expected. This winter manuring costs the least of all methods, and probably saves the most of the value of the manure of any known to me.

But the barn-yards of a productive grain farm will be covered in the spring a foot or two deep with the butts of corn stalks, straw, and manure from cows, young cattle, etc., that will be so coarse that it requires reducing in bulk by fermentation. This matter is pitched into large piles in the yard, from time to time sprinkled with gypsum, and about the first of July the sides of the piles cut down and cast on the top, to promote the decay of the part of the manure that has been so exposed to the air that fermentation has been very slight.

Thus treated, this coarse manure will be so reduced by the time that wheat is to be sown in the fall, that it can be drawn out and scattered on the top of the wheat ground immediately before harrowing and drilling in the seed. Selecting that part of the wheat ground that most requires help, we top-dress it with this rotted manure, not mixing it with the soil more than the harrow and drill buries it with a very slight covering.

This last described method of handling barn-yard manure is vastly more expensive than the one first given; but, all things considered, I know of no better way to take care of the coarser parts of it.

In this very summary statement of our methods of using barn-yard manure, I have avoided arguing the controverted points that are involved—some of them may come up for consideration at a future time.

Rotation of Crops involves Mixed Agriculture.—There are sections of country where rotation of crops and a system of mixed agriculture is impracticable. And there are districts where the plow cannot be used at all. But a very large proportion of this country is in all respects well adapted to the production of a great variety of crops, and to the support,

at the same time, of large flocks of sheep, or herds of cattle. Wherever mixed agriculture is practicable, it results in vastly increasing the grand total of the yield of the fruits of the earth.

That strange tendency of the American mind to run to extremes in everything, appears among the farmers as strongly as anywhere else. If fine wool happens to be profitable to raise, a fever takes hold of the owners of flocks, which soon becomes a mania. Individuals become noted as breeders.—Some fancy name becomes famous, and the sheep of certain men rise in price, first to hundreds, soon to thousands of dollars each, until a single animal has been sold for the price of a farm adequate to the support, when managed by a rational man, of an ordinary family.

This sheep fever in due time results in over production of wool; low prices follow; men begin to rub their eyes, as though waking from some strange dream, and the bubble bursts. A reaction follows; good sheep are slaughtered by the thousand, saving only their pelts and tallow, and the business of wool-raising, as a regular branch of farming, is as unduly depressed, as at the time of the popular insanity it was unduly elevated.

A few men have made money; many men have lost money; but there has been one real gain. Sheep have been greatly improved, and the knowledge of the best manner of managing flocks has been very much extended.

It would hardly be safe for a man who wishes to live a quiet and peaceable life, to name that special branch of farming, in this connection, that has so long enjoyed a foreign demand for its productions, and is now in the acme of its success. But for the sake of the prosperity of this business, it certainly is to be hoped that our politicians will not commence a suit for the damages done us in the time of the rebellion by the Alabamas that swept our commerce from the seas, in that only court to which nations bring their grievances for settlement.

The prosperity of a nation's agriculture must be based on the production of a great variety of staples, if it be possible, the production of all the raw material for the food and raiment of all the people. Thus the nation is made independent of all other peoples in time of peace or of war.

True as this is of a nation, it is really no less true of an individual farmer, so far as his soil and climate will permit him to diversify and increase the variety and number of the products of his land.

Farm Stock with Grain-Raising, is Necessarily Connected with a Proper Rotation.—In the rotation suggested in this paper, one-fifth of the farm is pasture, beside the pasturage derived in the early spring from ground that is to be ploughed for corn, and that which is derived from the fields from which wheat has been harvested. The wheat stubbles will, without injuring the grass, give a large amount of pasture—at a time when usually most desired—that will be fresh, and much liked by the farm stock.

A grain farm, under a proper rotation, will carry through the summer a large stock, and produce none the less grain, if we take a period of, say ten years, into account. This farm stock, in the winter, will work the corn-stalks and straw into manure. In fact, the stock is a necessity to the grain farmer in the winter. Before the grain raisers of Central and Western New York understood this thing, the straw from their grain was a great incumbrance, and much of it was burned up immediately after the grain was thrashed, in the fields where it grew.

To sum this matter up, a proper farm stock, over and above the teams, cows, etc., necessary to meet the wants of the farm, can be supported on a grain farm with very little cost, except the care and attention required.

It may be said that the straw, corn stalks, etc., might be sold for money. Near large towns this may be true, but it is not true away from such markets. But it should not be sold off the farm, unless the owner of the farm intends to sell the soil within a few years. The barn-yard manure made by cattle and sheep, by trampling this coarse forage under foot, is an important matter in that system that looks to making a farm self-sustaining and self-improving.

A well managed grain farm should sell grain, clover seed, meat, wool, cheese and butter—but not hay, corn stalks, or straw, until it has become so fertile by its own self-sustaining and creative powers that too much straw is produced in the grain crops. Then, perhaps, it will do to sell a little hay—when it brings a large price.

Such persons as have done me the honor of reading my communications lately published in the *Tribune*, will have learned that I believe in a farm sustaining itself, and that with very little aid from outside, it should be, by judicious cultivation, carried to the very highest point of production that the climate will allow. I fully recognize the inherent differences in soils, and their adaptability to special crops, and I do not say that the exact methods I have pointed out are applicable everywhere. But I have no sympathy whatever with that school of writers who appear to think that the world is going to ruin by reason of the deterioration of the farming lands.

There is a period in new countries in which bad farming is almost universal; then comes the necessity of reform, and reform becomes the order of the day. So far as I know, farming is now improving in all the older sections of the country, except, perhaps, in the neighborhood of cities. The temptation to raise hay and sell it at high prices in a great city, leads to the worst farming that has come under my notice. Whenever I hear a farmer say that he pays \$50 or \$60 an acre for manure to put on his fields, and then learn that this manure is mostly straw that has become stained a little in some city stable, fifty or more miles from where it is applied as manure, I am quite apt to tell that farmer that his money has been badly laid out, and that in a proper system of mixed husbandry, and with a proper rotation of crops, he would have saved this expense.—*New York Weekly Tribune.*

CLEANING PAINTED SURFACES THAT ARE NOT VARNISHED.—Put upon a plate some of the best whiting; have ready some clean warm water and a piece of flannel, which dip into the water and squeeze nearly dry, then take as much whiting as will adhere to it, apply it to the painted surface, when a little rubbing will instantly remove any dirt or grease; wash well off with water, and rub dry with a soft cloth. Painted articles thus cleaned look equal to new, and without doing the least injury to the most delicate color; it will preserve the paint much longer than if cleaned with soap, and does not require more than half the time usually occupied in cleaning.—*Technologist.*

Telescopes were first invented by PORTA and JANSON, in 1590.

AGRICULTURAL CHEMISTRY.---XI.

BY J. S. H. BARTLETT, M. D.

EFFECTS OF THE NUTRITION OF PLANTS UPON THE SOIL.

It is known that plants imbibe from water and the atmosphere, only carbon, oxygen, and hydrogen, but is shown by analysis, that independently of these and the products arising from their combinations, plants contain azote, and some earthy and saline substances, which cannot be produced by either of the elements mentioned above. It would seem necessary, then, to account for the manner in which these substances have been introduced into plants. Azote, which is found in albumen and gelatine, is not sensibly drawn from the atmosphere, but passes in with the oxygen in the water imbibed by the plants, and like that is separated in their organs.

The earths which are insoluble in water, but which are mixed with, or suspended in that fluid, are not absorbed in large quantities by the pores of plants, but may be conveyed into them by the aid of some chemical agents, as the acids, the alkalis, &c; nevertheless the small quantity they do contain, might in a state of extreme division be introduced by water.

There are some plants that fasten themselves and grow upon the most barren rocks, deriving from the surrounding air and rains, all the nourishment required by them; among these may be classed the mosses, lichens, &c. Their growth is small, their transpiration almost nothing, and their color remains nearly the same all the year round yet they constantly absorb water and carbonic acid, and assimilate their constituent principles.

The soil is always exhausted in a greater or less degree by the plants it produces, and much more by those that are annual than by those that are perennial. Air and water alone do not afford a sufficient degree of nourishment to plants, for when they have been made to grow in well-washed sand, and watered with distilled water, though they have flowered, their fruits did not arrive at maturity. Experiments have been made to this effect by Gilbert, Hassenfratz, de Saussure, &c. These annual plants which transpire most, generally exhaust the soil in the greatest degree. Peas, beans, and the like exhaust it the least because they transpire but little.

When annual plants are cut at the time of flowering, they are less exhausting to the soil, as their succulent roots furnish materials for replacing the loss occasioned by their growth. During fructification, plants absorb but little nourishment from the soil; the supply necessary for the seed is furnished by those juices which already exist in the

roots and stalks, so that when the fruit is perfected, they only consist of woody fiber. It is necessary that this should be understood, in order that too late mowing of meadows, whether natural or artificial, may be avoided.

The most favorable time for conducting this operation is that of flowering, or when the material to be cut is in blossom. If the operation be postponed till the seed is formed, two great disadvantages will arise; the first is, that the hay or fodder obtained will have parted with most of its nutritive qualities; and the second is, that the plants, having fulfilled all the laws of their nature, cannot flourish again with vigor the same year. It is a known fact that grass cut before the seed is formed, affords the most abundant harvest, and the greatest number of them, as it may be mown if the land is in good heart enough several times in a year. Any perennial plants which would serve for fodder, may by this means be preserved for several years in a state of reproduction, but if mown after the formation of seed, the plants are weakened and reproduction lessened.

Another fact it would be well for the agriculturist to bear in mind, especially in those districts where manures are with difficulty obtained, is, that if a piece of grass land which has been mown always at or before the time of flowering is to be broken up for tillage, it will yield a good crop without manuring; but if the grass has been allowed to go to seed it will be necessary to apply manure before it will yield a good return. As those plants that are cut at the time of flowering, do not exhaust the soil so much as those that remain for seed, the belief has arisen that before the period of fructification, they are nourished by the constituent principles of the surrounding air and water, but, that during the time of the formation of the seed, their support is wholly derived from the earth. But this opinion will not hold in regard to all plants, tobacco, cabbages, and onions, are known to exhaust the soil greatly though they are gathered before producing seed. Potatoes though they produce but few seeds, impoverish the land more than almost any other vegetable. It is well known that plowing in a green crop of any kind prepares the soil for producing without any other manure, since by this process all that the soil has yielded is returned to it, with some additions resulting from the decomposed principles of air and water which are contained in the plants. To understand this fully it is necessary to consider the successive changes which take place in annual plants during their growth; first they produce green leaves, which by coming in contact with the air receive from it the principles before spoken of; subsequently the stalks increase in size and number, and are covered with numerous leaves, which absorb

from the atmosphere a degree of nourishment suited to the increasing wants of the plants. This state continues till after the period of flowering, when a change of an opposite nature takes place; the roots dry up as well the stalks, which answer but little purpose in nourishing animals or manuring the earth.

The experiments of an enlightened agriculturist has confirmed the doctrine here advanced. In the latter part of June, at the time of flowering, forty wheat plants of equal size and strength were selected; twenty of the plants with all their roots were pulled, and the rest left to complete their fructification. Having carefully freed from the earth the roots of those taken up, he cut the stalks two inches above the roots, and dried separately the roots and: the stalks surmounted by their heads.

The roots and the portion of the stalks remaining with them weighed657 grains.
The stalks, heads and leaves.....1,946.5 grains.

Total.....2,603.5

In the latter part of August, the time of harvest, he pulled up the twenty plants which had been left for seed, separating the roots and cutting the stalks as of the first, of these the weight was as follows:

Roots.....419.48 grains.
Straw, Husks, and Beards.....1,321.38 grains.

Total.....1,740.86 grains.
Loss.....862.19 grains.

Total.....2603.5 grains.

The weight of the grain is not taken into the account as the experiments was made to test the condition of the plant at the two different stages of its growth, without regard to that particular.

In conclusion, those plants which form seeds exhaust the soil the most, because for all they have received they return nothing but their dry roots and stalks, while those that are cut when green, give back with their roots and stalks what they have drawn from the soil, and a part of that which they have drawn from the atmosphere.—*Journal of Applied Chemistry*.

THE MOTH WORM.—The female miller may be seen flitting about the entrance of the hive toward evening, and if the combs are not covered with bees, or if cracks and crevices can be found, she will readily find a place to deposit her eggs within the hive. These soon hatch in hot weather, and continue to increase until, if not dislodged, they finally gain entire possession. Many millers may be destroyed by visiting the hives regularly very early in the morning during the summer months, and if a mixture of vinegar and water, well sweetened, be placed at night among the hives, in white dishes, many millers will be drowned. It is important that these dishes be removed early in the morning, before the bees are astir, for if left many of the latter might also be destroyed. —*Rural Home*.

THE CHICAGO FARM PUMPS.



J. F. Temple & Sons, Chicago, Illinois, are manufacturing a very superior article of Pumps, which have many new and valuable features, possessed by no others. Chief among these may be mentioned a *Patent Porcelain Lined Iron Chamber* for the plunger to work in. This great improvement consists of a cylindrical cast iron tube—lined with porcelain—similar to the porcelain kettles in common use—being inserted so as to line that portion of the pump where the plunger travels; thus preventing the gradual wearing away of the pump and piston packing, and by materially decreasing the friction, greatly lessens the labor of pumping. The porcelain-lined chamber being perfectly pure and wholesome, imparts no unpleasant or poisonous qualities to the water, as is the case with iron or copper-lined pumps. These pumps have been introduced into nearly all of the Southern States, and are for sale in Baltimore by agricultural implement dealers generally.

TO KEEP FLIES OFF HORSES—Peter Gilbert writes the *Rural New Yorker*: "Flies have been so bad on my horses that I found it almost impossible to work them, so I tried to think of something to stop them. I took smart weed and soaked it in water, and in the morning applied it to the horses with a sponge, all over them, and found the horses to work along without any further trouble, the flies not annoying them in the least."

The circulation of blood was first discovered by HARVEY, in 1610

A newspaper was first established in 1629.

BURNING LIME FOR AGRICULTURAL USE.

Having visited the districts of Pennsylvania a few years since, where lime is in use on almost every farm, I put the notes I took at the time at the service of your readers, who want light upon this topic. The use of lime is of great service to all farmers who can procure it at cheap rates, as every one must admit who visits the regions that have been so much benefited by its general application. The great productiveness of Pennsylvania farms in the lime-stone districts, is owing mainly to the persistent use of this fertilizer. The lime is very cheaply prepared upon the farm where it is used, or bought at cheap rates from the men who make a business of burning for farmers. By far the larger portion is prepared at home, at seasons of the year when other work is not pressing. The simplest method, and the cheapest for the man who is only looking out for his own supply, is to burn the stone in stacks. The process is the same as that of burning charcoal in stacks. The spot usually selected is the pit or quarry where the lime-stone is procured, and this is of a soft kind already broken by the frosts, or easily yielding to the hammer. The heap is put in the form of a parallelogram, about a rod wide, and long enough to take in all the stone, wood and coal to be burned. A foundation is laid of any refuse wood on hand, old stumps and roots from clearings, dry brush or seasoned wood kept for the purpose. This foundation should be eighteen inches or more thick. It is surrounded with earth and sods, leaving holes for ventilation about fifteen inches square, at intervals of five or six feet. Channels filled with dry kindlings, should run from the ventilators to the centre of the heap. After the bed of wood is prepared, the broken lime-stone is spread upon it about six inches in thickness, then a layer of culm or fine anthracite coal is laid upon the stone. This culm is the screenings procured from the mouths of the coal mines, when the merchantable coal is broken and prepared for market. It accumulates about the shafts in large quantities, and the miners are glad to have it out of the way. It is generally given to all who come for it, and the farmers only have to pay the cost of freight to the nearest depot. It makes an intense heat, and is much cheaper than wood for reducing the stone. The heap is carried up with alternate layers of lime-stone and coal, to the height of five or six feet, and the sides covered with soil. The top is not covered until after the heap is well ignited. The layers of stone may be increased a little in thickness toward the top of the heap. The fires are lighted at the ventilators, and it takes about a week to burn a stack containing several thousand bushels. The estimate for fuel is one ton of coal to 150 bushels of lime in large stacks.

Any one who has skill enough to burn a coal-pit can prepare lime in this way. With good dry wood failure is hardly possible. Of course, wood and good coal can be substituted for culm, which, in some places, would increase the cost of the lime.—Where fuel is as cheap as it is in the vicinity of the coal mines, the lime costs about two cents a bushel. If the lime or coal has to be brought from a distance, of course the cost of the lime is increased. It is used quite largely outside of the lime-stone and coal districts, at a cost, principally for freight, of ten or twelve cents a bushel. There would be no difficulty in burning oyster shells in the vicinity of cities and villages, where they are to be had in this simple manner, substituting brush and stumps for the culm. Where the harder kinds of limestone are used, and lime is burned on a large scale, kilns are prepared for the purpose. Those who have extensive farms and use lime freely, often build kilns in preference to burning in stacks. A place is usually selected upon a side-hill, so that the top of the kiln can be approached with loaded teams for convenience in charging. A good kiln for a farmer's use would be, say twelve feet across at the top, sixteen at the bottom and eighteen high. The outer walls should be laid in masonry, and the inside lined with fire brick, or some kind of stone that does not easily melt. The inner chamber for holding the charge of stone and fuel should be about the shape of an egg, small end down, three feet across at the bottom, seven at the top, and sixteen feet deep. There is a flue at the bottom, about two feet square, for the purpose of giving draft to the fire, and of discharging the lime when it is burned. There is also one hole, or two, in the sides of the kiln, immediately above the flue for the purpose of thrusting in stout iron rods for the purpose of holding up the mass of fuel and stone when necessary. About a cord of wood is put in the bottom of a kiln of this size when it is being prepared for burning. A layer of three or four inches of anthracite is put upon the wood, and then a foot of limestone; three inches of coal would be put upon the stone, and so on until the kiln was filled. The layers of stone would increase in thickness a little toward the top. In burning such a kiln, about thirty-five bushels of lime would be drawn out at the bottom twice in each twenty-four hours, and fresh lime and coal put on at the top. Such a kiln can be kept burning for months, until any desired quantity of lime is prepared. The usual estimate is a hundred bushels of lime for a ton of coal. With this basis of calculation, any one can tell pretty near what lime will cost a bushel if burned upon his premises. Near the coal mines and lime rock, it will not be more than five or six cents a bushel. Where coal costs eight or ten dollars a ton, lime advances propor-

tionately. But there are many limestone regions where wood is cheap, or where peat can be had for the digging. Any kind of cheap fuel will serve to burn lime. It is the cheap fuel and limestone that has made the use of lime so general in Pennsylvania and some parts of New Jersey. Of course it cannot pay so well when the cost of the lime is advanced to a dollar or more a barrel, and it is a question whether it will pay at all. To many farmers living within an hour's ride of market towns, the cheapest source of lime is the oyster shells that accumulate about restaurants and hotels. They go to market with loads of hay, wood and other produce, and might as well bring back a few barrels of oyster shells as to come empty. These shells are very easily reduced by a fire of brush or peat, and it would not cost any outlay of money to get a hundred or more bushels of lime and apply it to a couple of acres of land, and determine whether it would pay or not.—CONNECTICUT, in *Country Gentleman*.

SOUTHERN RICE SWAMPS.

HARVESTING, HULLING AND POLISHING RICE IN THE SOUTH.

There is a belt of land stretching from Virginia down the coast to the Gulf of Mexico, and most of the distance it lies low, very little above the level of the ocean, some of which is covered with water by every high tide. The greater portion of this land may properly be called swamp land—not altogether given up to the domain of the water, but always damp and too wet for any grain except rice. It is not every swamp or wet piece of land that is fit for the cultivation of rice. The alluvial swamps lying along the banks of rivers having a deep soil, composed of decayed vegetables, is best fitted for the purpose, but it must be so located that it can be overflowed at high tide, or it is useless for the purpose. The lands must also be protected from the salt water and from the rapid currents occasioned by freshets. South Carolina is the great rice State, more being cultivated than in all the United States beside. The rivers flowing down from the table land of the interior reach this low land, and force them to the sea, spread out and have generally a deep broad channel. There is volume of water sufficient, so that the tide will cause it to set back for many miles. Along many of these ravines the land is as level as the sea, and it can be flooded at pleasure. Gates are constructed through artificial embankments along the banks of the river, and when the tide is high the water is let in and the land flooded and the gates closed. When it becomes necessary to draw the water off, the gates are opened at low tide. Some of these fields are very large

and interesting when being prepared for a crop, and are very beautiful when the rice comes through the water and throws its needle-like spears. These fields must have a secure embankment along the river, and must be thoroughly drained by artificial channels, so as to take the water entirely away when necessary. In large fields some of the channels have capacity enough to float a flat-bottom boat, which is used to convey the harvest to the place of storage.

The land is plowed in winter, and in the first warm days of spring is flooded. The preparation of the ground commences in March. The ground is made as mellow as a garden. The seed is sown in trenches about fifteen inches apart. It requires about three bushels of seed to an acre. The seed is lightly covered with soil and the water let in and remains about a week, by which time the grain sprouts, when the water is drawn off, but when the grain is a few inches above the ground it is again flooded for four or five days and then drawn off, and the grain is then allowed to grow for four or five weeks, when it is cultivated and the ground thoroughly stirred, and then the water is let on, and it is flooded for a few days and then gradually drawn down and again cultivated, and after the second cultivation the water is again let on to remain till the crop matures, which takes about two months, when the water is drawn off, and it is harvested, very much as we harvest buckwheat. The crop in a favorable season is a profitable one. The grain is threshed and cleaned in mill. It is frequently sent to market before the hulls are removed. There are extensive mills at Liverpool and New York for hulling the rice, and that enables the dealer to put it on the market fresh and white. There are mills at Savannah and Charleston, where the rice is hulled for a local market. The best hulling machines cost from \$15,000 to \$18,000, and have very intricate machinery. The rice, before hulled, is called paddy. The machine takes off the hulls and sorts the grain. After the hulls are removed, it is moved out on inclined screens, which are fine at first, and all the small and broken rice passes through, and then a little coarser, and the rice called "middling rice" drops through, and last the "Prince rice." The latter quality is passed through another screen, which is called polishing, and in that process is swept clean and bright. Rice is cultivated in all the warm countries of the world, and is used for food by more people than any other cereal, except wheat. It is cultivated very extensively in the East Indies, and along the coast, where the lands are marshy, it is the only crop raised. It is a staple crop in Africa, south of Europe, North and South America. Ceylon produces a large quantity in excess of consumption. There are several varieties, some of which grow on dry land, but the Carolina or water-rice, as it is called, is as fine as any in the world. It grows very rapidly, and is often six feet high. When it is sufficiently high to cover and hide the water, it presents a beautiful sight.—*Pomeroy's Weekly*.

MANURING SEEDS INSTEAD OF THE SOIL.

The backwardness on the part of those engaged in the cultivation of the soil to adopt any improvement that may be suggested in the way of their calling, has often been the subject of remark. The beaten track, it is said, seems to be the only one that has charms for them, and the difficulty with which they are induced to leave it, has been the theme of agricultural writers since periodicals were first issued for the benefit of the class alluded to. — Some time ago the subject of "manuring the seeds" of plants that were to be raised, instead of manuring the soil, was spoken very favorably of in certain journals, and received the countenance of professors thought to be learned in agricultural science.

If the plan was thought sufficiently well of to be followed, and experience proved the advantage of it, why is the practice not pursued at present? — That the system would be attended with better results in Europe where the idea originated, is evident from the higher condition of the soil in consequence of previous plentiful manuring in the ordinary way. But that large crops could be raised without sufficient inorganic materials in the soil for their production, is as unreasonable as to suppose that a bale of cotton goods could be made without sufficient raw cotton for its manufacture.

It cannot be denied that there is a disinclination on the part of farmers to adopt anything new, but whether there is not some other reason besides obstinacy which influences their motives, is not without its consideration. The most of those engaged in this calling, have too much at stake even in a small way to indulge in experiments, which as far as they know of may result unfavorably; in the event of which a whole year in certain respects is lost. Should such unfortunately be the case, their families, their farms and their animals would be sensibly affected by failure in any part of a system, the harmony of which will not bear to be disturbed. Hence, the advantage of "Agricultural Institutions," carried on at the expense of the State where experiments in agricultural novelties can be conducted under the most favorable circumstances; and if failure ensue, the result will not be followed by the same consequences, as would be the case where individual trials were not attended with success. The substances that were to be employed in manuring seeds, and the mode of using them were as follows: 1. Blood in the liquid state, mixed with one-eightieth of its weight of glauber salts dissolved in water. 2. Wool, hair, parings of leather, horns, hoofs and bones charred in close vessels until they are capable of being reduced to powder. Oil cakes were also powdered for use.

Mode of using them.—A semi-fluid mixture with which the seeds were to be mixed, and then the whole dried by the addition of the powdered manures already prepared.

The semi-fluid mixture is thus composed: For a bushel of wheat or other grain, take 20 to 30 pounds of clay in fine powder; $1\frac{1}{2}$ pounds of sal ammoniac, or 3 pounds of common salt, 3 to 5 quarts of fish or other cheap oil; 15 to 20 quarts of fresh blood, or that kept in a fluid state by means of glauber salts, or, in the absence of these, as much water; 3 to 5 pounds of linseed meal, or pounded oil cake. These are to be mixed intimately together, and water added if necessary to make a half fluid mass. The seed is then to be poured in and stirred about till every seed is completely enveloped in the mixture. A layer of one of the following dried mixtures is then spread on the floor, over it the manured seed, and then another layer of dry powder. The whole is then stirred together and left to dry.

Dry Mixtures.—Of the drying mixtures several are described, consisting chiefly of powdered clay, mixed with one or other of the dry powders already mentioned. Those recommended consisted of 75 parts of powdered clay, 8 of horn shavings, and 17 of bone dust; or 85 of clay, with 15 of fluid or 5 of dried blood; or 85 of clay, 2 of charred hair, and 10 of oil cake; or 60 of clay, and 40 of powdered dung; or 70 of clay, 25 of charred leather and 5 of bone dust. These all to be finely powdered and intimately mixed. The principal alleged use of the clay is to make the substances adhere together, and to attach them more strongly to the grain.

When the mixture of grain and manure is dry, it is broken up by hand and thrown upon a fine sieve, which allows the loose powder and the uncovered grains to pass through, and then a coarse sieve through which the dressed seeds pass, leaving the lumps in which two or three seeds may be present, and which are to be carefully broken up.—Much caution is to be used in completing the operations so quickly that the grains may not be permitted to sprout, and thus become liable to injury during the different operations. By having the different preparations and appliances on hand ready for use much time and trouble would be saved at the season for employing them.—*Journal of Applied Chemistry.*

THE IONA GRAPE.—Dr. H. H. Farley, of Union Springs, N. Y., has found the quality of this fine grape much improved by grafting on other strong-growing sorts. Other cultivators have noticed the same effect.

The barometer was invented by TORRICELLI, in 1535.

Horticultural.

POTOMAC FRUIT GROWERS' ASSOCIATION.

WASHINGTON, D. C., July 27, 1871.

To the Editors of the Maryland Farmer:

As several of the members of the "Potomac Fruit Growers' Association" belong in your State, the proceedings of its meetings may be desirable in your journal; hence, I send you a synopsis of its July meeting, which was an interesting one, and well attended.

The Potomac Fruit Grower's Association met at 11 o'clock on Tuesday, July 11th, at the Board of Trade rooms, Judge Gray presiding; P. H. Folsom, Esq., Secretary.

APRICOTS.

The question was asked if this fruit could be successfully grown here?

Prof. Howland.—A lady on Capitol Hill has several apricot trees in her garden, under one of which situated near the house she placed a stove, with the pipe extending up among the branches. She had fruit from that tree which sold for twelve dollars a bushel, the rest was killed by the frost. About half the fruit was stung by curculio and dropped off, but enough remained to make a full crop.

Major King.—The apricot has been successful this year for the first time in a number of seasons, and I attribute it to the earliness of the season.

Col. Chamberlain, of Loudon county, Va., stated that he had met with success, while friend Gillingham, of Mt. Vernon, reported that his fruit had been stung and was a failure.

Dr. Snodgrass—I have several plum trees in my garden, which last year bore with one exception, and that one only bore this year because, as I think, no curculio went into the ground from that tree.

JAPAN LILY.

Mr. Saul laid on the table some beautiful blossoms of the "Golden Japan Lily." They were much admired, especially for their fragrance, and the thanks of the association were tendered to Mr. Saul.

EARLY PEACHES.

Messrs. Munson, Gray, Gillingham and J. B. Claggett, had brought specimens of Hale's early peach, and the latter some of the Plowden early.

BLACKBERRY AND RASPBERRY.

Mr. John Saul said the 'Lawton' is the best variety that was brought prominently into notice, and many still prefer it to the 'Kittatinny,' or any others; but in my experience, I prefer the Kittatinny. I think it ripens more uniformly. It requires

considerable judgment to gather the Lawton, but not so with the Kittatinny. It is a hardy kind; at least I find it at the present time. It is exceedingly fine. The 'Missouri Mammoth' is similar to the Kittatinny. Last year it was a failure, but this season it is loaded with fruit, finer than any of the others. The 'Wilson' is a very excellent fruit, and is the earliest. The Kittatinny and Missouri Mammoth follow in time of ripening.

Prof. Wm. Saunders said: Regarding the varieties of the blackberry, I found in going through one meadow in Maryland, four distinct varieties; if anything, more distinct than any of those now in cultivation, and equally as good. It is wrong to confine ourselves to one variety. Persons have different tastes; then, too, they ripen at different times; and again, one might prove a failure. They do not do well in rich soil; the vines grow so luxuriantly that the wood does not ripen. In one case where they grew in the sod large crops were gathered. One gentleman planted in rich soil forty-eight Lawtons, training up two canes to a stake; the next year he had twelve bushels of fruit, but after that he did not obtain good crops. We have a great deal to contend with from unripened wood.

Major King.—Have we any varieties of the dewberry in cultivation?

Mr. Saunders—The 'Wislon' is a variety of the dewberry.

Colonel Chamberlain.—In my neighborhood there are wild berries as large as any of these exhibited here, and very sweet.

Prof. Howland.—Two years ago last spring I went out into the woods, and from different localities got some black raspberry bushes. I set out three rows in my garden, and when they came into bearing found a number of varieties, some of them being very fine, like the ever-bearing, while others were worthless. Altogether, at one picking, I obtained over three bushels from the three rows, 109 feet long.

Mr. Saul.—The black raspberry will bring only half the price of the red. The latter is bought up immediately in the market.

Mr. Saunders.—Will Mr. Saul state which of the red raspberries he considers the best?

Mr. Saul.—I have found the 'Philadelphia' to be a very good, hardy raspberry. The 'Elm City' also is a good variety.

A bough of a red raspberry was brought by Dr. Snodgrass, and pronounced by Mr. Saul to be of the 'Belle de Fontenay' variety.

Mr. Saunders.—It is well for us to keep in view the difference between the foreign and our native raspberry. The foreign is very superior to the native, but as you come south the weather is too dry

and the sun is too warm for that plant. In a short time the leaves will drop off, from mildew, the canes will not ripen, and the winter will kill them. We can guard against the mildew by mulching; and by laying down and covering them up, protect them from the frost. The Philadelphia is a seedling of the native raspberry, and is therefore adapted to our climate. Culture will of course do much for it, but it will grow without any care. It has been cultivated for many years, but it is only a short time since it was brought particularly into notice. Let us improve the native variety; but before we can make any intelligent improvement it is first necessary that we should understand it in all its features. In some places on the Hudson the "Red Antwerp" is a very successful crop, but plants brought south have proved failures.

Mr. Saul.—I have known of its being successfully grown on the Hudson, but I can get no fruit from the same vines in this locality.

Col. D. S. Curtiss then delivered an interesting address upon the efficiency of association—which we will publish in our next issue.

DETERIORATION IN FRUITS.

Friend Gillingham then read an able paper, showing that species do *not* deteriorate and run out.

Mr. Saunders.—The old idea about the deterioration of varieties has been exploded. No ordinary cultivator ever entertained the idea. We have everything to show that there is no such deterioration of fruits.

He said they have an idea in Western New York that that is the only region for raising fine winter fruit; but that is a mistake. I should say that the hills of Virginia and North Carolina is the best region in the world. In the future, southern fruits will be taken North for cultivation. The great trouble has been the planting of northern varieties in the South; but southern pomologists have of late been paying attention to southern seedlings, and now they have a list superior to the northern list. Some day the North will be astonished at the show of southern fruits.

Mr. Saul.—My opinion is the same. With northern varieties at the South failure is certain. We must get southern varieties. They will do better at the North than northern varieties will at the South. They have found that to be the case in Europe.

Orchardists and nursery-men in Maryland, Virginia, and other States South, will make a note of this important fact. Mr. Saul said further:

The coming pomological convention at Richmond will astonish everybody who supposes that the South have no fruits.

The following is a partial list of apples recommended by Mr. Saunders for cultivation in this

latitude: Nickajack, Abrem, Albermarle Pippin, Winesap, Cullasaga, Limbertwig, Milam, Schackley, Uattamuskeet, Hall's Early, Golden Wilding, Pryor's Red, Cannan Pearmain, Smith's Cider, Burum, Halliday's Seedling, Brooke's Pippin.

This Society appointed a large delegation to attend the great Pomological Convention to be held at Richmond, in September next. D. S. C.

HOW TO DESTROY THE CURCULIO AND IMPROVE MALARIOUS ATMOSPHERE.

Colonel Lucius A. Hardee, of Jacksonville, Florida, claims to have made some very interesting experiments and discoveries in the annihilation of the curculio and other troublesome insects by concussion, as well as driving away the poisonous and malarious vapors of the air through the same agency. At a recent meeting of prominent citizens in Jacksonville, Florida, interested in this subject, Colonel Hardee explained his discovery as follows:

"I claim to have utilized concussion in the perfect annihilation of the horticulturist pest known as curculio. My attention, early last spring, was called to the fact that in the vicinity of the new railroad, which runs immediately through my orchard, the curculio was being driven to the extreme end of my orchard. It is well known to all pomologists that this enemy does its work at night. The cars passing through my orchard (which is situated just one mile from the depot in your city) blows its whistle in passing just after nightfall, and again in the morning before daylight. I was led to the belief that the noise of the whistle, or jarring, was the cause of their disappearance from the vicinity of the railroad. To satisfy myself I placed two pounds of powder in the hollow of a live-oak stump immediately in the vicinity where they promised the entire destruction of some plums, peaches, &c. This powder was fired off one calm night, and it not only destroyed every curculio, but every winged insect in my entire orchard. My attention was called to the marvelous growth of my peach trees and vines on the line of the railroad. I could in no way account for this until I discovered the wonderful effect that the two pounds of powder had on my other trees.

"I claim, gentlemen, that concussion is the greatest fertilizer known. How it affects the air, soil or trees, I know not; that I leave for more scientific minds; I only know the fact. I claim that concussion will destroy all animalcules and render sickly localities perfectly healthy. It is well known that during the late war yellow fever or no other contagions made their appearance in our southern cities, and it is also known that Grant's entire army of fifty thousand men enjoyed perfect health on the Big Black during the sickly season of 1864. This, heretofore, has not been satisfactorily accounted for. I claim that the Yanks are indebted to King Gunpowder for their healthfulness during the late wicked war. Concussion is the great agent of nature in purifying the atmosphere. It is well known by physicians the effects produced by thunder during the sickly seasons; and it is a well established fact that during the fall of 1857, when the yellow fever was raging in Jacksonville, there was very little or no thunder. I could give you, gentlemen, an account of several experiments I have made besides these I have alluded to, but I will not occupy your time. I only request that you will act so as to bring this discovery before the public."

FACTS CONCERNING DWARF TREES.

Almost every person has a correct understanding in the general acceptance of the term *dwarf*. Every person also knows a dwarf tree when he sees it. And yet many intelligent pomologists are utterly unable to designate understandingly what constitutes a dwarf tree. The question is frequently asked, "Can a tree be dwarfed, and then changed to a standard?"

Dwarf and *standard* are mere garden technical terms. They came to us from Europe. The term dwarf formerly meant all low-trained trees for planting to walls and espaliers, without regard to the stock upon which they were worked. Standard was used to denote those trees trained or trimmed up to long stems for planting in the garden or orchard, unsupported by wall or trellis. The term standard (or Rider) was also applied to certain tall-stemmed trees used in covering fruit walls. Indeed, I rather incline to the opinion, that this was the original use of the terms.

In many parts of Europe a row of fruit-trees consisting of alternate dwarfs and standards was originally planted along the wall, say twelve feet high; and, as the dwarfs extended, the tall trees were gradually pruned away and ultimately removed. So much for ancient terms, as in works two hundred years old. But, with us, the term dwarf seems to be applied exclusively to those trees that are grafted upon a weak or slow-growing stock, for the purpose of arresting vigorous growth and for encouraging precocity in fruitfulness. Thus the pear is dwarfed, when worked on quince; the apple, when grafted on Paradise and Doucin stocks; the cherry on the Mahaleb; the peach on the plum stock. We may state in parenthesis, in this connection, that the Paradise apple is a small species growing three or four feet high; and when common varieties are budded or grafted on it, they are reduced in size, so that the trees will be only a trifle larger than large tree currant bushes. The Doucin is a larger species, in size between the Paradise and common apple, forming larger dwarfs. All the apples of large trees, whether grafted or budded on stocks of their own species, are dominated *standard*.

In some instances stocks raised from seeds are designated as seedling or *free* stocks, which is a very ancient term, to distinguish them from stocks raised by cuttings or layers. Seeds also from wild fruits, such as the crab-apple and choke pear, are particularly known as producing free or free-growing stocks. William Saunders, of Washington, D. C., writes that, according to the American definition of these terms, a pear tree grafted on a quince, is a dwarf. But, supposing that a pear stem sends out roots, and the quince root die completely? The

tree would then be a standard, according to this definition of the technical term. As a matter of fact, it is very rare that roots are formed from the pear in this way, although it is a prevalent opinion that such a thing often occurs. It is not desirable, at any rate. If a person wishes standard pear trees, he plants them, not trusting to a hap-hazard chance of getting roots on pear stems above quince stocks. I have examined many hundreds of trees said to have left the quince; but have yet seen but two trees that had partially formed new roots. Usually, a very luxuriant dwarf pear tree will be pointed out as having left the quince stock. Recently, a knowing one of this class pointed out several trees in our garden, of very luxuriant growth, which he *knew* had left the quince. I went to examine them; and he was perfectly taken aback, when I showed him that no part of the pear stem was within three inches of the soil! The quince stem was three inches above ground.

HOW TO CHANGE DWARFS TO STANDARDS.

It has been affirmed by certain knowing ones—who acknowledge that they have never seen the operation performed successfully—that a dwarf tree may be changed to a *standard*, by cutting small notches in the bark of the tree near the ground, just above the point of union between the graft and the stock, and piling mellow soil around the tree, to induce it to throw out roots above the dwarf stock. According to this theory the mere fact that a system of roots has been thrown out from the graft gives the tree the character of a standard, whether the top has increased to correspond with the new system of roots or not. These roots, it is said, throw the growing tree back to the original character of a standard. This is the accepted *theory* of pomologists. But it must be confessed that there is a dark shade of obscurity hanging over such reasoning. Has not the natural character of the standard cion been materially changed by a union with the dwarf stock? No one will deny it.

Now, then, when Bartlett pear cions are worked on quince stocks, and the tree has become a genuine dwarf by having the characteristics of the dwarf stock infused through and through every branch and bud, will a few roots near the surface of the ground have sufficient efficacy to divest the tree of its dwarf characteristics? We had supposed that the term *dwarf* tree legitimately signifies a growing tree much smaller than the usual size of trees of that species. Then, after a system of coronal roots are thrown out, if the top of the tree does not grow larger than it was before, where is the consistency of denominating it a *standard*. It is correct to say that "if, after coronal roots are thrown out, the top of the tree does not increase, it is still a dwarf."—*Pomeroy's Weekly*.

The Apiary.

FOUL BROOD.

We find in almost every number of the *Journal* an article upon this deplorable malady, and also different ways of getting rid of it.

As I have had some experience with this disease, of course I have been interested in these articles.

I presume my experience with it has been more limited than many, from the fact that I have never had a very extensive apiary. But, to say the least, I do not care to extend my observations, as I am entirely free from it now.

My attention was first arrested about six years ago. In the spring I bought some stocks from a section about fifty miles away, and transferred them to movable comb hives. In the fall following, while examining them preparatory for winter quarters, I discovered a few scattering cells containing sealed dead brood. It occurred to me at once that this might be foul brood. The next season it increased. I commenced to cut out the diseased brood, but soon found it was of no avail. I began to search for a remedy in what bee literature I had, but could not find anything which looked effectual.

I kept all my stock until another season, and became convinced it was of no use to try to cure it, as all the stock of my home apiary were diseased more or less.

In the fall I destroyed nearly all of the bees, took the honey from the combs with my honey slinger, and made the combs into wax, and burnt up all the frames.

Some of the hives I scalded thoroughly with hot water; others I held over a blazing fire until the propolis melted.

I have used some of these hives, but have never discovered anything of the disease. Some of the bees, instead of destroying, I put into a box and kept them several days, supplying them with dissolved sugar, and then united them with some healthy stocks; and have not discovered any unhealthfulness in consequence. I removed a queen from a diseased stock to a healthy nucleus, and discovered in a short time that I carried the disease with her.

I think that unless the disease is in too bad a state or form, that the bees might be saved by treating them as above, and placing them in a clean hive; but I think it would be a good deal of trouble to cleanse the comb so it would be safe to use.

I would advise every one who discovers this enemy in any stock, to destroy the honey and comb at once—unless the honey can be scalded before the bees can get to it—and perhaps the bees too, and thoroughly cleanse the hives before using.—*Cor. Bee Journal.*

Grape Culture.

GRAPES ON TREES---GRAPE ROT---CAUSE.

In the Cincinnati Horticultural Society, Mr. Tompson stated that he lets his grape vines run at random over trees, and that he has great success in this plan.

Now, this may be new to the grape-growers about Cincinnati, but it has been my practice for the last twenty-five years to let them run just where they like and climb higher and more higher still, if they please; and I always have an abundant yield of grapes, notwithstanding Dr. Warder's opinion to the contrary.

I must confess that I feel considerably elated when I contrast my vines with those on the vine-clad hills around Cincinnati. Whilst on one of my vines there will be thousands of bunches of grapes without five minute's labor in a year, those little pipe stem vines, tied to stakes, and requiring constant care, only produce a few bunches.

Now for the theory. Your little dwarfed and spindling vines can have only a corresponding amount of roots, and, consequently, a corresponding amount of fruit. It is nonsense to talk of vines overbearing for two or three years, and then not bear at all, unless they are cut and trimmed. Experience proves the contrary.

If any one does not agree with me, he is welcome to his theories, whilst I can and do have an abundance of grapes. I have used sulphur more than twenty years, and with benefit, to prevent rot.

Rot is not caused by a fungus, as some suppose, but is caused by some insect puncturing the grapes whether to deposit their eggs or not I don't know, but presume it is for that purpose; yet I never succeeded in finding any eggs or worms in a rotted grape. Well, says one, how do you know they have been stung by an insect? Because I have seen the puncture and a jet of juice which had oozed out. Whenever you find a grape that has been stung, tie a string to it, (for a mark so as to find it,) and watch the result. After a longer or shorter period it will turn whitish around the place where stung, and continue to spread until the whole grape is rotted. If at any time with a sharp knife you cut out the black spot, the remainder of the grape will grow and ripen, thus providing there is no defect in the vine.

Upon this discovery was based the sulphur remedy for the rot, being distasteful to all the insect tribe. Fumigations with sulphur in the evening is better than the dust, as I think the depredators work at night. I have no certain knowledge of the enemy, but always find a few large yellow bugs on the vines when the grapes are rotting—they are very shy fellows. Whether friend or foe, I know not, but kill him when I find him.—*Cor. Cincinnati Gazette.*

THE
MARYLAND FARMER,
 AT \$1.50 PER ANNUM,
 PUBLISHED THE 1ST OF EACH MONTH,
 BY
S. SANDS MILLS & CO.
 No. 145 WEST PRATT STREET,
 Opposite Maltby House,
BALTIMORE.

S. SANDS MILLS, } Publishers.
 E. WHITMAN, }

'BALTIMORE, SEPTEMBER 1, 1871.

TERMS OF SUBSCRIPTION:

\$1.50 per annum, in advance—6 copies for \$7.50—10 copies
 \$12.00.

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FINE STOCK FOR SALE.—S. W. Ficklin, of Belmont Stock Farm, near Charlottesville, Va., offers for sale, at reduced prices, his thoroughbred horses, colts, short horn cattle, &c. His stock is too well known to need any commendation from us. His imported Percheron Norman horses are the finest in this country. See advertisement.

MONTGOMERY COUNTY AGRICULTURAL FAIR FOR 1871.—The Eighteenth Annual Exhibition of this Society will be held on their grounds, in Rockville, on Wednesday, Thursday and Friday, the 13th, 14th and 15th of September, 1871. Address Richard M. Williams, Secretary, Rockville, Md.

Herd Register of the American Jersey Cattle Club.

We have received Vol. 1, Herd Register of THE AMERICAN JERSEY CATTLE CLUB, (published by the club,) containing accurate pedigrees of all the best Jersey Cattle imported into this country, and their offspring. The publication of this work will enable breeders, or persons desiring to stock their farms with this most valuable breed of cattle, to determine with certainty the purity of blood of any animal offered for sale—the work also contains a very interesting essay on Jersey Cattle; a description of the points of a perfect animal, and other articles of interest; with the constitution of the club, and a complete list of the present members; also a number of finely executed photographic pictures from life of well known animals—among which may be found those of the handsome imported bull "Clement," owned by J. Howard McHenry, Esq., and the young imported bull "Sir Davy," owned by Jos. H. Riemann, Esq., both of Baltimore county, Maryland.

This book is elegantly gotten up, quarto in form, on tinted paper, bound in cloth, making a very creditable volume. Copies may be had at the office of Thomas Hill, N. E. corner of Fayette and St. Paul Sts., Baltimore, Md. Price \$5, postage forty-eight cents extra on copies sent by mail.

The Syphon Pump.

WEIGHT OF WATER COMPARED WITH THE AIR

"Will the syphon pump be available in wells, say forty feet deep?" No, sir! nor any, except a forcing or lift pump. The law of philosophy is "that the weight of the atmosphere is equal to a column of water thirty-three feet in height;" that is, remove the air from a tube, no matter how high and long, whose bottom end is in water, and the water will rise in the vacuum thus made to the height of thirty-three feet and no more. Thus we see that if water is to be raised from the bottom of a deep well, it must be lifted or forced by mechanical power all the distance above thirty-three feet; the same law governs the action of water under all circumstances. If we make a syphon carrying the crown forty or fifty feet above the water supply, and carry the outlet of the long leg any distance lower, and, by any means, fill the syphon, water cannot be made to run over the crown of the syphon; it will only rise to about thirty-three feet in the short leg—so that in erecting pumps, syphons, or other means of raising water, we must be governed by the laws of hydrostatics. The foregoing has been called out by calls for information concerning the action of the syphon pump, mentioned in a former article.—*Cor. Country Gentleman.*

Glass windows were used for lights in 1180.

ON THE CULTIVATION OF WHEAT.

Any one who has paid any attention to the wheat product of the United States, comparing the yield per acre in past years with what it is at present, cannot fail to be struck with the fact that in the best wheat growing regions of the older States the product of grain per acre for a long time steadily declined, but that recently, through more judicious cultivation, the average yield, taking into consideration the area under cultivation, has gradually but slowly increased, although it has not yet reached, except in rare instances, the acreable product of the original soil. A quarter of a century ago the average product of wheat in Maryland did not much exceed seven bushels to the acre. Since then the average in good seasons has risen to fifteen bushels, thus more than doubling the crop. A similar decline and a similar improvement is observable in the reports from all the older States since fertilizers have been more liberally employed, and a better system of cultivation has taken the place of the old slovenly practices. But we are far from having reached the maximum yield. There are occasional instances of the yield reaching thirty and thirty-five bushels to the acre. But these instances are few as compared with those which indicate returns of ten, twelve and fourteen bushels. The same results are observable in the Western States. The best wheat growing regions there are losing their former fertility, and the wheat fields from which the heaviest supplies are drawn for sale in the Chicago and St. Louis markets are those that have been newly opened to wheat culture. In short, the great wheat granary of the United States has been steadily moving further westward and the cost of transportation to the eastern markets has increased in proportion to the distances of the fields from which the wheat crops are drawn.

The advantage to the older States lies in this—that they are occupied by a dense population; that the best wheat markets, whether for home consumption or for exportation, are in their midst, are easily accessible both by rail and water, and the cost of transportation is light, whilst the wheat offered for sale brings the highest market prices. All these circumstances are in favor of the wheat growers of the older States, and even now tend to counterbalance the heavier acreable yield of the newly opened Western States. But there is no earthly reason why the product in the Atlantic States should not be equal to that of the best Western soils. Lands are never exhausted except by carelessness and improvidence. When farmers take everything off their land, even to the straw, and put little or nothing back upon it, of course by constant cropping the land will wear out. But the lands of England and

Germany and France have been under tillage for a thousand years—we say nothing of the lands of China—and since science has been brought to bear on the cultivation of the soil, the wheat crop in numerous instances has been brought up to forty-five bushels the acre, and the average, except in bad seasons, has rarely fallen below twenty-five. The climate in England especially, is moreover, greatly against the farmer, whilst with us it is unexceptionably good. It is, therefore, but fair to say that if we pursue their methods and lime and fertilize as liberally as they do, that our crops should be at least equal to theirs.

And, now, what have we to do to bring about this result? In the first place we must steadily pursue a system of cultivation and a system of manuring, which instead of robbing annually the soil of a part of its plant food, should add to it more than has been carried off in the crops. We know by the analytical tables that have been so frequently given in the pages of the *Maryland Farmer* that the essential constituents of a good wheat soil are potash, soda, phosphate of lime, carbonate of lime and silica. We throw out the silica, for that is superabundantly found in almost every soil. We have then to look principally for potash, soda, phosphate of lime and carbonate of lime. If these are present in good quantities and the soil is not too light, the wheat product is bound to be good in a good season and under cleanly and thorough preparatory tillage. If these are deficient in quantity, or if any one of them is missing, the crop will be light. Under such circumstances what is to be done? One of two means may be resorted to—First, liming and moderate manuring until the land will bring good crops of clover. This crop turned under will, in rotting, give to the soil all the constituents that a crop of wheat requires, for strange to say, the constituents of the ash of clover and those of the ash of wheat, both stem and grain, run parallel with each other. Hence, as every good farmer knows, clover turned under is an excellent preparation for wheat. But this process would take several years to accomplish. The quicker method is to supply the same constituents, either by composts made on the farm, or by the use of commercial fertilizers. The best mixture of the latter kind is a combination of soluble super-phosphate of lime, which is better known by some as bone dust, potash and soda—or their equivalent of unleached wood ashes—and a small percentage of ammonia. From two hundred and fifty pounds to three hundred pounds to the acre of the above mixture would not only restore to the wheat crop the constituents it lacked, but would leave a residue for the next crop.

FISH CULTURE.

Breeding of Salmon, Shad and Trout, by Artificial Aid.

At the last session of the Maryland Legislature a good deal of attention was attracted to the propagation of the finer kinds of fish by artificial processes, brought into play to assist the natural. Mr. Roosevelt, of New York, was invited to lecture on the subject before the General Assembly, and his account, together with the experiences of Mr. Green, showed that fish, and especially shad, could be propagated with success.

Our northern neighbors regard fish breeding as no longer a matter of experiment. It is with them becoming a firmly established branch of industry, the profits of which can be calculated with comparative certainty. The trout ponds of private gentlemen in New York and Pennsylvania contain hundreds of thousands of trout, from the minnows of the first season, up to noble fellows of from four to five pounds weight. Of course many of these latter come to market and are bought at a high price for the tables of epicures. To us, however, the most important point is to stock our fine rivers with the best kinds of fish, trout only thriving in cold water streams. If we are to effect this the aid of the State must be called into requisition, and as the sorts are singularly small, the annual appropriation would only be of a sum of money really insignificant in amount to the benefit that would accrue to the people of the State at large.

In one of the numbers of a northern agricultural journal there appeared not long since a well written article on salmon breeding, of which we propose to give the substance. Though trout and black bass would probably prove the hardiest and most prolific fish for our waters, we are nevertheless not too far south to test—in addition to shad and bass in our larger streams, and trout in our mountain waters—the experiment of raising salmon in broad rivers having rocky falls, and running directly to the sea. At all events it is well for us to know what has been done in this matter elsewhere. We take the experiences of Mr. Sammel Wilmor on one of the northern lakes. His establishment is on a small stream running into Lake Ontario. The water of this stream is clear and cold, and formerly abounded in salmon. In 1836 he commenced the operation of restocking the stream with 1500 spawn, of which a part only was successfully hatched and turned into the stream. In 1867 his labors for that particular year resulted in failure, but 1868 he obtained a large number of fry. The temperature of the water during most of the winter of that year was just above the freezing point. The period of incubation was five months. We quote :

"In the fall the young of his first crop of fish made their appearance in his stream, as grisee, weighing from two to three pounds, and measuring about twenty-two inches in length. This settled the question of the practicability of breeding salmon in his waters. The thing was done, and the young brood had come home to be penned with as much regularity as sheep return at night to the fold. Mr. Wilmor has kept on increasing the number of young fry each year, and just as steadily increasing the supply of breeding fish. Over eight hundred large fish, some of them weighing more than twenty-five pounds each, were in his reception house last fall. The quantity of spawn taken is enormous, meeting all the wants of the Canadian government, with a surplus for sale to parties in the United States."

In starting such an establishment it is the first step that costs. It is not the amount of capital needed, for that is small. It is the working, watching and waiting for from three to five years before any returns can be expected. The buildings at first may be small but substantial broad shanties, costing but a trifle, and the breeding places simply hollow troughs of various sizes. Food is an important matter, for the young fry have ravenous appetites, and the meat finely shredded, together with other things necessary to feed them, will sum up a considerable sum at the end of the year. The cost of procuring the ova—spawn—and of skilful labor to attend to the hatching and rearing, must also be taken into account. But really, as compared with the enormous advantage that would accrue to our people by the systematic breeding not only of salmon—if that be possible in our waters—but also of trout, shad and black bass, the cost and charges are so light that the committee appointed by our State Legislature to investigate and report upon the matter (we believe there was such a committee appointed.) could scarcely fail, if they were convinced of its practicability, to recommend a small appropriation to meet the earlier expenses of this new and interesting branch of industry.

THE "DOUGLAS MIXTURE" FOR FOWLS WHEN MOULTING.—When fowls are moulting, it is good to give them a chalybeate tonic in the water given them to drink ; it will assist them greatly through this, the most critical period of the whole year. This mixture is made in the following proportions : half a pound of sulphate of iron, and one ounce of sulphuric acid, dissolved in two gallons of water ; to be added in the proportion of a teaspoonful to each pint of water in the drinking fountain. The rusty appearance which the water will assume is quite immaterial. A little hempseed mixed with their food at this season is also good.—*Poultry Chronicle*.

The fire engine was invented in 1685.

Our Agricultural Calendar.

FARM WORK FOR SEPTEMBER.

With September the season of active operations on the farm, in respect to new crops, may be said fairly to have commenced. Wheat is in an especial manner the money crop of the farmer, although corn in many cases, and the hog crop, which is the produce of corn, in other cases, often come sharply into rivalry with wheat. But of all the cereals wheat requires the utmost care in the preparation of the soil, and the certainty that all the fertilizing elements that enter into the composition of wheat shall be present as plant food to promote its vigorous growth and its heaviest yield. Land may even be too rich for wheat. If it has an excess of nitrogenous matter the wheat will be apt to run to straw, and especially is this the case when the phosphates and potash are in comparison deficient. It is the nitrogenous matters that promote the growth of the stem and the blades of wheat, and the phosphates that go to the production of the grain.—These facts, which we propose to amplify presently, go to show what fertilizers are most efficient in the production of a crop of wheat. Moreover, in all that is done the cultivation should be thorough, the land should be made as clean and free of weeds as possible, for weeds not only obstruct the growth of the plant, but they also draw from the soil no inconsiderable portion of the nutriment that would otherwise serve to feed the innumerable rootlets that the wheat plant puts out in search of sustenance. Finally, no larger crop should be pitched than can be easily tilled, and every possible care should be taken that the land is put in good condition. The work for the month is as follows:

Culture of Wheat.

An article to be found elsewhere in this number of the *Farmer* will be found to give full details in respect to this important crop, whether as regards preparation, soil, or the constituents necessary to be present in growing a good crop of wheat. We may say, however, here, briefly, that a good loam inclining to clay is the soil for wheat, and that the subsoil should be sound and dry. The best depth of seeding ranges from one to two inches, and the best method of seeding is to drill it in. We have already referred to the constituents required in a good wheat soil, and how nitrogenous and how phosphatic manures together with potash acts. We think, moreover, that wheat may now be seeded earlier than has been the custom of late, as there have been recently fewer ravages from the fly, and consequently the wheat would be able to take firmer

root-hold of the soil before the winter sets in. The seed wheat ought also to be selected grain, plump and heavy, and from a poorer soil rather than a richer. It has been, moreover, established by analytical chemists, and by the universal experience of intelligent farmers, that a good clover ley is the best preparation for a crop of wheat, inasmuch as it contains all the fertilizing elements in which the wheat delights. But these points are discussed elsewhere. We simply, therefore, state briefly that the

Soil best adapted for wheat is—A clay loam.

Best preparation for wheat—A clover ley.

Depth of Seeding.—From one to two inches.

Method of Seeding.—By drill or broadcast, but the drill is to be preferred.

Time of Seeding.—From the 15th of September to the 7th of October.

Quantity of Seed per Acre.—Drilled, five pecks; broadcasted, not less than two bushels.

Cleaning Granaries.

Attend to these. Fumigate them with sulphur according to the plan so often advised, and white-wash all the interior walls, floors, sides and rafters thoroughly.

Sowing Rye.

See suggestions in the *Farmer* of last month.—We recapitulate briefly:

Best Soil for Rye.—A sandy loam, a rich sandy alluvial, or bottom land, being the best of all, provided it be laid perfectly dry by draining.

Quantity of Seed to the Acre.—If seeded after August not less than six pecks.

Composts—See *Farmer* of last month.

Orchards.

Spread over old orchards that need assistance a good dressing of compost, and plough it lightly or harrow it thoroughly in. Scrape the bark off scaly trees and apply a mixture composed of one pound of flour of sulphur and one quart of fine salt and a gallon of soft soap. Wash with this mixture the trunk and larger limbs.

Corn on Grass Lands.

As a preparation for planting corn in the spring, spread over the old pasture or grass land to be broken up, twelve bushels of lime and five bushels of unleached ashes to the acre. Harrow the land well to allow these alkalies to penetrate the soil. If the land inclines to clay plough it in the fall and let it lie rough through the winter.

Meadows.

If these show signs of exhaustion they may be top-dressed to advantage with a mixture of ground bones and wood ashes, at the rate of two bushels of the former to ten bushels of the latter—or they may be broadcasted with 150 pounds of super-phos-

phate and 10 pounds of commercial potash, or its equivalent of wood ashes, say from 5 to 10 bushels. After top-dressing, harrow, cross-harrow and roll.

Mixture for Stock.

Mix equal parts of shell lime slacked, salt and sifted wood ashes, and give two ounces of the mixture to each head of stock twice a week.

Sheep.

Attend to these as suggested last month. Keep them well supplied with rock salt under cover.

Setting Out Orchards.

Prepare the land by deep ploughing and also subsoiling where it is practicable, and have it in readiness for planting the trees in October.

Cellars and Out Houses.

Have these cleaned and whitewashed.

Cattle Yards and Pig Pens.

Collect materials near these for conversion into manure.

Ditching and Draining.

This work may now be done to advantage.

Fencing, &c.

See that the fences are strong and secure and substitute gates for bars wherever it can conveniently be done.

PREPARING TOBACCO FOR MARKET.

I believe I promised, some time since, to write an article on housing and preparing tobacco for market.

Different persons entertain different opinions in regard to housing tobacco. Some prefer hanging it on a scaffold before putting in the barn, and letting it remain a few days, until it becomes a beautiful yellow. They then put it in the barn and commence firing at once.

My plan is to hang it in the barn as soon as taken out of the field, placing the sticks about six inches apart on the tier poles, (if put too close it will house burn.) I let it remain until it turns considerably yellow; I then build small chip fires under it, and when the ends of the leaves are cured up, I make large fires under the tobacco, (not large enough, however, to burn it.) I keep these fires up night and day, until the tobacco is entirely cured (dried,) then remove the fires. There is then nothing more to do until the time comes to strip it. This is done most generally in damp weather. It is done by pulling the leaves off the stalk and tying them up in hands, (as it is called,) putting from eight to a dozen leaves in a hand. It should be assorted while stripping, putting all the bad leaves to themselves and keeping the good tobacco to itself.—When stripped, hang up again in the barn. It is then ready for market. If not sold, it can be bulked down, as it is called, and it will keep for an indefinite length of time.—*Cor. American Farm Jour.*

Garden Work for September.

The work for the month is as follows:

Spinach.—The spinach that is well advanced for autumn use should now be thinned out and carefully hoed. For a fresh supply, to come in early in the spring, the ground must be made very rich, dug deeply, and thoroughly pulverized. When this is done, and all is raked smooth, lay off the beds in drills nine inches apart and half an inch deep. Sow thinly along the drills, at any time between the 1st and the 15th of the month. As soon as winter approaches cover the young plants lightly with straw or brush or cedar branches. The prickly spinach is the hardiest variety. As soon as the young plants have leaves an inch broad, thin out so as to stand four inches apart, and hoe them.

Lettuce.—Set out from the seed bed such lettuce plants as are well advanced. For winter use sow fresh seed early this month, either in the open air or in cold frames. If the plants are to stand out all through the winter, they will need a light covering of straw, or cedar brush, or any rough material that will not smother them.

Radishes.—Radish seed, of the turnip-rooted variety, may be seeded from the 1st to the 10th of the month. It would be scarcely worth while to continue seeding any later.

Endive.—Set out endive plants; the curled green variety is best. Let the rows be fourteen inches apart, and the distance between the plants twelve inches. As they advance in growth keep the soil loose and clean, and draw a little earth to the stems. Choose, if possible, a mellow soil and make it rich.

Celery.—Earth up celery on dry days—avoid covering the hearts of the plants, and water liberally occasionally.

Turnips.—Thin and hoe these to six inches apart, and keep the soil loose and free of weeds.

Cabbages.—About the 10th of the month prepare, by heavy manuring and deep spading, a bed for the reception of cabbage seed. Rake it well, and sow in separate divisions of the bed the seed of such varieties of cabbage as it may be desirable to select to stand out through the winter. Sow the seed moderately thick, rake off evenly, and press the earth upon the seed by patting the bed with the back of the spade. If the weather prove dry, water freely. Towards the close of October the plants will be ready to set out in rows where they are to stand through the winter.

Sowing Cauliflower Seed.—Between the 10th and 20th of the month prepare a seed bed as recommended for cabbage. Sow the cauliflower seed, and treat the young plants when large enough, precisely as recommended for cabbage. In about five weeks

transplant from the bed into cold frames, where the plants are to remain through the winter.

Siberian Kale—Make the bed intended for kale very rich, by using none but the best well rotted manure. Spade it deeply, rake all fine, and lay the bed off into drills. Sow the seed thinly along the rows. They may be seeded broadcast if preferred, and then pat down the soil after raking with the back of a spade. If a larger quantity of kale is to be raised in a truck patch, proceed with plough and harrow and heavy manuring in a similar manner.

Gathering Seed—As the autumn seed ripen gather them, spread them out on cloths to dry, but protect them from the rains. When they are dry put them carefully into bags, and label each bag with the name of the seed it contains. Hang up the bags for the winter in a dry place, and out of the reach of mice and rats.

Planting out Herbs—Towards the close of the month all kinds of pot and medicinal herbs may be set out in moist weather.

ORCHARD GRASS SEEDING.

Our correspondent, J. Hartley Norton, Esq., of Comorn, Va., writes us on the 15th inst., remitting three dollars for subscription to the *Farmer*, which we gratefully acknowledge, and in reply to his inquiries, "When is the best time to sow orchard grass seed? What quantity of seed is required per acre? How should the seed be prepared for sowing? What machine is the best with which to sow it?" we would say, that it may be sown with the winter grains, wheat and rye, in autumn, or with oats and barley in the spring, or it may be sown in autumn or spring by itself without a grain crop. The latter is preferable, when the land is not strong and fertile, particularly when the grass crop is the special object. The grain crop sown with the grass exhausts the land and impairs the growth of the grass, unless an amount of fertilizers are used which will fully supply the wants of both crops.

Whilst orchard grass is very valuable for both hay and pasturage, if properly seeded and managed, its value is greatly impaired by seeding too thinly, and when it is used as a hay crop, by allowing it to stand too long before cutting. The natural habit of the grass is to grow in tussocks; this is prevented in a great degree by seeding heavily.

If the land is fertile, two and a half to three bushels per acre is more profitable than a less quantity. It thrives best on light, fertile, moist loam, but, with sufficient lime in the soil, and full fertility, it flourishes well on very light, and even on steep hill sides.

A good set of orchard grass is much more durable than one of timothy or clover, and for both grazing

and pasturage is more valuable, if well managed, than either of the other grasses named. It endures the effects of drought and frost better than the others.

The seeding with the grains is usually applied the same as timothy, when it is sown with the grain. When the grain is sown broadcast and harrowed, it is best to sow the grass seed after the land has been harrowed over, then the seed should be harrowed in. When the grain is drilled in, the seed attachment may be used for the grass seed. The objection, however, to this mode of seeding, is that the seeds of the grass and grain are mainly in the drill, the effect of which is to choke and impair the growth of both.

The most successful seeding with orchard grass has been effected when it has been sown without any other crop.

There is little danger of too great fertility of the soil, as it is not liable to fall, and a thin barren soil will not yield a paying crop. It may be sown with the seeding attachment of the grain drill by raising the grain drilling apparatus. The Bickford & Huffman Grain Drill, with the Seeding Attachment, is considered the most perfect machine now in use.

Good success has attended sowing it broadcast with say one and a half bushels of oats per acre, and cutting the oats before the seed matures for a forage crop. When seeded thus it often yields fine pasturage the following autumn.

No preparation of the seed is requisite.

Save the Cornfodder.

We have long been of the opinion, says the *German town Telegraph*, that there was not that attention paid to the curing and saving of the cornfodder that its value demanded. Every good farmer must know that cattle eat it greedily through the winter, and if cut and steamed it is as good for them as the best hay, and really more milk-producing.

Where is the necessity of allowing it to remain in shocks until the middle or end of November? Corn should not be cut down until the stalks are dying, and the grain is pretty hard, and then it should remain no longer in the field than is absolutely necessary for the drying of the grain. It should be husked as early as possible, and the fodder tied up in bundles, and either carefully stacked near the cattle stables, or put under shelter in sheds.

It is well-known, too, that horses prefer it to the best hay; also that the blades are especially sought for to feed racing animals, strengthening their wind and bottom beyond any other food. It is besides wholesome provender, and helps most beneficially in making the winter's supply of hay hold out till late in the spring, with the addition of roots, which every farmer, who shrewdly looks to the main chance, ought to cultivate for feeding in the early part.

For the Maryland Farmer.

DISEASES OF TAME BIRDS.

The vast number and variety of birds tamed and kept in cages to conduce to the pleasure of the proprietors, shows the interest produced from this source. Facts and matters pertaining to the treatment of birds and their diseases, are often of importance to their owners, as often a little information with its practical application will save the life of a favorite, perhaps valuable bird. With a laudable object in view of benefit to those interested, I condense from good authority—Dr. Bechstein—some of the maladies, with their treatment, which affect birds under domestication.

Pip, or Thrush.—All should know this is a catarrh or cold, by which the nostrils are stopped up, and the membrane covering the tongue is hardened by inflammation. Apply a little borax dissolved in water to the tongue, with a camel-hair pencil two or three times a day, till a healthy action is produced. A mixture of fresh butter, pepper and garlic, administered, generally cures this catarrh.

Rheum.—Symptoms: frequent sneezing and shaking of the head. A few drops of pectoral elixir in an infusion of speedwell, (*veronica officinalis*) administered internally, is the most efficacious. In cases of mere hoarseness, a drink of very dilute decoction of dry figs sweetened with a little sugar, to be followed by the juice of carrots to purge, is often all sufficient.

Asthma.—Symptoms: short breath, often open their beaks as if to gasp for breath; when agitated or frightened, keep them open a long time. Treatment: remove the too often producing cause—mode of life the bird leads, food it eats, air it breathes, etc. Give a moist and refreshing regimen, and some mild aperient, as the disease is violent.

Atrophy, or Wasting.—Caused by giving unnatural food to the bird, destroying the digestive power of the stomach. Make it swallow a common spider, which purges it, and put a rusty nail in its water, to strengthen and give tone to the stomach, while at the same time it should have its proper and natural food. Green food, as lettuce, endive, chickweed and water cress, are safest remedies.

Consumption.—Another result of improper or unnatural food, indicated by the bird inflating and distending itself; feathers ruffled, and flesh dwindles. Treat same as the foregoing, especially give the water cress for green food.

Costiveness.—Known by the frequent efforts of the bird to relieve itself. Administer aperients; if a spider does not prove efficacious, anoint the vent with the head of a pin steeped in linseed oil. Boiled bread and milk is of good service,

Diarrhæa.—Often caused from not being accustomed to their food. Sometimes iron water and the oil clyster produce good effects, but it is better to feed its most natural food. This disease needs early treatment, before inflammation becomes violent.—Boiled bread and milk, a plenty of lettuce or other green food, is best to cure generally. In chronic diarrhæa, iron water mixed with a little milk is an easy certain cure.

Bloody Flux.—The best remedy is to make the bird drink plenty of boiled milk.

Obstruction of the Rump Gland.—This is known when the feathers surrounding the gland are ruffled, and the bird never ceasing to peck them. Anoint with an ointment made of white lead, litharge, wax and olive oil, from a good chemist.

Epilepsy.—Plunge the sick bird every now and then in very cold water, and cut one or two of their claws short enough for the blood to run.

Tympany, or Bloating.—In this disorder the skin rises and swells so that it is stretched like a drum. It is sufficient treatment, generally, to prick it with a pin, so as to allow the air to escape, and the bird is cured.

Disease in the Feet.—A trouble to which house birds are often subject. The feet must be frequently cleaned, the skin removed, also the scales, with every precaution. The gout occasions the feet to swell; they are also so scaly and painful that the bird can hardly support itself without resting on the point of its wings. A warm fomentation, with a decoction of soapwort, (*saponaria officinalis*) is good.

Usually, if birds have free means of bathing in clean water, little trouble from disease of the feet need be apprehended, as the bird will care for itself.

Sore Eyes.—Give the juice of red beet for drink; it is also recommended to wash the eyes, when disposed to blindness, with an infusion of white hellebore.

Tumors and Ulcers on the head, are cured by touching them with a red-hot, middling sized knitting needle. To soften the pain use a little liquid black soap. A matterated or soft tumor should be rubbed with fresh butter till it comes to a head, when it is emptied, and opened by a few drops of essence of myrrh. The bird must have nothing but beet juice during all this time.

Ulcers in the throat and palate may be cured by making the bird drink the milk of almonds for a few days, and at the same time several times a day touching the ulcers with a feather mixed with honey and borax.

Moulting, though natural, is usually accompanied with disease, and attention is required during the period. The food should be cooling, abundant and nourishing, without any heating delicacies, which are very injurious,

Vertigo, or Giddiness.—Caused rather by the trick of turning the head and neck so far round that they fall off the perch. Cover the top of cage so they cannot see anything above them.

Pairing Fever.—House birds are often attacked with this in spring; become sorrowful, cease to sing, ruffle their feathers, become thin and die. Place them in the window. Keep the sexes out of sight and hearing of each other.

Parasitic Vermin.—Symptoms: frequent feeling about the abdomen, back or wings with the beak; examine, and if yellow insects are found, sprinkle with a small syringe with water in which quicksilver has been steeped, or a much diluted infusion of tobacco, for several days successively. * * *

Cleanliness, frequent bathing in water, and dry sand is generally efficacious.

Unnatural Fatness is no less a disease than other. Change the food to that less nutritious, mixing ruta bagas in it, and put dry ants into their drink.

GIARDINIÈRE.

DRYING COWS FOR THE BUTCHER.—A correspondent of the *New York Cultivator* advises that those who have cows naturally poor milkers, which it is desirable to fatten quick and get in order for the shambles, advises that they be put on a very poor pasture where they will have to work hard to find enough to eat, and not to strip or milk at all, and in a week or ten days all remnants of milk will have been absorbed by the system, and afterwards fattening may commence. He had generally milked but once a day for a week or two previous to the drying, but when cows are sinking in milk and giving very little, there is nothing necessary besides as above stated. In cases where cows in full milk are dried, it is not wise to relieve the udder too soon, but to take all if it is mixed with humor, and give a pound and a half of salts, which will generally suffice to clear the system and stop further secretion, but it is folly to take any trouble with poor milkers, as there is no occasion whatever for it.

A GRUB-KILLER.—The cheapest grub-killer is to dissolve a coffee-cup full of salt in hot water, then put into a common-sized watering pan and fill up with cold water. Just give each plant a gentle switch over with this mixture, and they will disappear in a minute, and the salt and water will nourish the plants wonderfully. All greens are fond of salt and water. Some people would be afraid of killing their cauliflowers, but it must be borne in mind that the salt and water will not penetrate the leaves. It runs off to the roots, killing every caterpillar in its way.—*Exchange.*

Cotton was planted in the United States in 1759.

The Poultry House.

CAPONING.

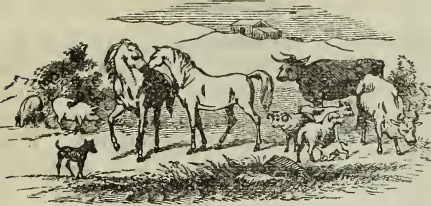
Caponing, or the castration of cocks, is an operation, performed with the view of rendering their flesh fatter and more delicate. Spring and autumn are the proper seasons for performing this operation, for in summer the wound is apt to mortify. When four months old, or thereabouts, is the most suitable period at which cocks should be castrated. To perform this operation, we provide ourselves with a sharp cutting instrument, and a needle threaded with a well-waxed thread, and then proceed in the following manner:

An assistant holds the bird, laying it on its back, head downwards, so that the intestine, turned toward the breast, will not be sufficiently exposed to be wounded by the instrument with which the belly is laid open. The rump is turned toward the operator, the right leg laid along the body, and the left turned back so as to expose the left flank, upon which the incision is made. It is below this part that the operator, after pulling off the feathers, makes an incision, which penetrates the belly, large enough to admit the finger. It is prudent, at the moment of making this incision, to lift up a little of the sides of the belly where the cut is made, to remove the intestines, and to make sure not to wound them with the instrument. If any portion of the intestines tends to escape by the wound, the operator must take hold of them; then introducing the forefinger into the abdomen, he directs it towards the left side of the medial line. There he will feel a body with a smooth surface, of about the size of a small haricot bean, and slightly adherent; seizing hold of it, he draws it towards the opening, through which he brings it out. He proceeds in the same manner with the second testicle, which may be found close to the first, to the right of the medial line; then brings the edge of the wound together and keeps them united by a few stitches, and the operation is completed.

Hens are castrated with the same object. We pluck the feathers from between the rump and tail; and just under the rump we find a little elevation formed by a small round body beneath it. We make an incision across it just large enough to admit the finger and bring out this body, which resembles an acorn; it is the ovary. Remove it and sew up the wound, and rub it with paraffin oil.—*Canadian Poultry Chronicle.*

LIFE is a book of which we can have but one edition. Let each day's actions, as they add their pages to the indestructible volume, be such as we shall be willing to have an assembled world read.

Live Stock Register.



BREAKING AND WORKING MULES.

Having handled and fed mules for the markets, and worked quite a number, for the past fifteen years, I have concluded to give my views as to the best manner to handle them while young, and also the kind of mule found most desirable and profitable to keep for general use.

Mules are naturally timid, and therefore should not be treated with harshness. They should be treated kindly, and with a certain degree of confidence. When the mule approaches the third year halter—break it thoroughly—and you have accomplished *more than half* of the breaking. Put the harness on and lead the mule to the wagon, and hitch it alongside of a gentle animal, and nine times out of ten the mule will walk right off. They rarely offer to pull back, but generally pull as if they wanted to take the whole load along. As soon as the mule becomes bridewise, you can consider it broken. After they become accustomed to the wagon you can take them out and break them to the use of the single line, with less difficulty than a horse colt, by simply having the *near side* lead rein shorter than the *off side* one. A steady pull will turn them to the left, and a sudden jerk and a gentle touch on the *near side*, to the right. Experience has taught me that young mules, when first taken up to be worked, do better to turn them out into a lot at night, than to tie them in a stable. In fact, I consider it the best way to handle young horses.

In selecting mules for work I prefer a mule from fifteen to fifteen and a half hands in height, of good bone, and of a dark color—and I beg leave to differ with Mr. Riley (in his work on the mule,) I prefer mules with white or mealy noses. I have found them good feeders, and generally of good disposition. I try to get them smooth, and of as *much weight as possible for the height*. In selecting from a lot of well fed mules, I always take the fat ones, believing them to be *easy* keepers. Mules of good quality, fat enough for market, should weigh one thousand pounds when three years of age, and with good care and ordinary feeding, will make animals

which will weigh from twelve to thirteen hundred pounds when five or six years old.

Mules, to do well, require more roughness, such as hay and fodder, than horses of equal weight, but will keep fat on less grain. The advantage of keeping mules on the farm, or for any work, is, in my opinion, as follows: They are less liable to disease than horses; they have tougher feet, and require less shoeing; are not liable to the many diseases of the legs and respiratory organs; in fact, can stand more severe labor with less care—as they are used almost exclusively in the North for draft purposes—they are not *pounded* on the road by our hired men and boys, (under the saddle and in light harness) for Sunday rides and impromptu races. Guarantees as to disposition and soundness are rarely asked and seldom given. They are sold with less trouble, and generally with more profit, than horses.

The mule's best friends are those who have used them the most. In the South, among the planters, and in the East, on the extensive lines of canals and vast coal and iron mines, they are best appreciated; and the fact that the demand exceeds the supply, (I mean of No. 1 animals) shows the high degree of favor in which they are held. In cities, five pairs, well matched in color and size, command as high as six and eight hundred dollars. For all work demanding steady, unflinching labor, they are unexcelled, and will continue to advance in favor until those who look upon them with indifference, and perhaps with contempt, will learn to appreciate them. The "boys in blue" can vouch for their utility in the army, and many among them who, when they first came in contact with them, did so with prejudice, have none now, but can and do rate among their best admirers.—*Cor. American Farm Journal*.

Docking Lambs.

A correspondent of the *National Live Stock Journal*, gives the following as his method of docking lambs: Being provided with a cup of ointment, composed of turpentine, one-third part, and lard, two-thirds parts, well mixed, a sharp butcher's knife, and a ball of coarse woolen yarn, let a man hold the lamb as in the position for castrating, *i. e.*, with the legs of one side in each hand, and the back to his breast. Then take the lamb by the tail, and push the skin as far up as possible, lay it on a block, place the sharp edge of the knife where you decide to cut, and bear down. When the bone separates, turn the knife, so as to leave more skin to the stump, draw the skin over the stump, and let a boy tie about six inches of yarn around it. The lambs seldom bleed more than five to fifteen minutes. If the weather is warm, the turpentine ointment is applied to the stump, to ward off blow-flies. I used to loose lambs every year before I adopted this plan, but have lost none since. The operation is also much more quickly and better done than with the chisel, and the tying is quite as good and more ready than searing.

SHORT HORNS IN MARYLAND.

The time was when the breeders in Maryland of the noble short horn (or Durham) could vie with any others in the land for high breeding and celebrity—Kentucky alone excepted. The beautiful herds of Mr. Calvert, Mr. C. Hill, Mr. Capron, Mr. Perine, and others, which from time to time were exhibited at our State Fairs, justly excited the admiration of the vast crowds which annually visited our show grounds; but of late years a falling off has taken place in this branch of cattle raising, and, whilst we are now prepared to contest the palm with any other State in the exhibition of the Alderneys, we have to confess the fact that a deterioration in our short horns has left us very far behind in the exhibition of the Durhams. But we hope that a new era is about to dawn upon us, and singular enough, it has commenced in the very vicinity whence our former breeders "most did congregate." We have on sundry occasions alluded to the "heroes of agriculture," of which our State has produced a goodly number, but these adorned their profession, and shed a halo of glory around their names, and added largely to the honor of the State which claimed them as her own. We are now enabled to announce that in old Prince George's a location has been made by Mr. C. E. Coffin, near the National Capital, whose liberal outlays for superior breeding animals of the highest character will soon place him in the front rank as a competitor with the eminent New York and Kentucky breeders in the rearing of short horn cattle. We congratulate the farmers of the State upon this addition to their number, and we doubt not that in a very little time we shall realize the beneficial effects of the efforts of Mr. Coffin to resuscitate the taste for the raising of this race of animals. If we can succeed in inducing our farmers, as we have been endeavoring to do for many months past, to pay more attention to their meadows and pastures, we have no reason to doubt that Maryland can in a few years be made capable of sustaining the immense proportions to which the lordly Durhams are capable of attaining as any other State.

Mr. Coffin has recently sold the following short-horns, the pedigrees indicated giving assurance of the highbred character of his herd: To Dr. Barksdale, of White Sulphur Springs, Va., Commodore Thorne, got by 14th Duke of Thorndale; to John G. White, Abingdon, Va., Great Expectations, got by Radical 8886, dam Elvina 4th; to Frank J. Robertson, Abingdon, Va., Plantagenet 8795, got by Imperial Oxford 4905, dam Pride of the Springs; to Mr. Hall, Glade Spring, Va., Laird of Muirkirk, got by Radical, dam Chance 5th. Among late additions by birth to the Muirkirk herd are—bull calf Prince George, out of Yarico 32d, by Salamander;

Lady of Muirkirk, out of Lady Lincoln, by Thomas Carlisle; Elvina 8th, out of Elvina 3d, by Plantagenet; Phillis of Muirkirk, out of Phillis 9th, by Royal Commauder, and Muirkirk Gwynne, out of Masterpiece, by Baron of Oxford.

Our sister Virginia, it will be seen, has borne off these fine animals thus sold, but there are others filling up the vacancies, some of which at least we hope will be secured by breeders in other sections of our own State. Mr. Coffin's post-office is Muirkirk, Prince George's county, Md.—*Balt. Daily Am*

USEFUL RECIPES.

MARYLAND LINE, BALTIMORE CO., MD., }
August 12th, 1871. }

To the Editors of the Maryland Farmer:

The following are a few useful recipes for farmers, horse-men, and a great many horse doctors. If you think they are worth space in your *Farmer* you may publish them:

CURE FOR WORMS IN HORSES.—Powdered Rhubarb, 2 drs; powdered Gentian, 2 drs; powdered Digitalis, 2 drs; powdered Calomel, 2 drs; Emetic Tartar, 2 drs; Chimney Soot, 2 ozs; Snake Root, 1 oz; Worm Seed, 1 oz. To be well mixed, divided into four powders, and one given every night.

ONE FOR DISTEMPER.—Mustard, 2 ozs.; Rye Flour, 4 ozs.; mix with tar and divided into six balls, one to be given every hour.

SIMPLE LINIMENT.—Spirits of turpentine, 1 pint; add as much gum camphor as it will cut. For bruises, swelled limbs, &c., it is unsurpassed.

CURE FOR ULCERS AND SORES.—Glycerine, 2 ozs.; powdered Rhubarb, 1 oz., and the yolks of four eggs. Apply once a day; wash with castile soap and warm water. When this fails you may easily say, "no cure."

CURE FOR CANCER WARTS.—These warts are always very troublesome to treat, (gray horses are the most subject to them.) The following is a sure and speedy cure: Take a sharp knife and cut them well out—don't be afraid of blood—then apply to the wounds a few drops of Aquafortis and water, equal parts. In a few minutes wash clean with acetic acid, (vinegar), apply the above ointment, and in a few days you have a complete cure, whereas I have known horse doctors to treat for six months and then fail.

CURE FOR RINGBONE.—Mercurial Ointment, 2 ozs.; Cantharides pulv., 2 ozs.; Corrosive Sublimate, 2 ozs.; Red Precipitate 1 oz.; Barbadoes tar, 2 ozs.; to be well mixed with one pound of axunge, (hog's lard). Apply once every three days for at least a fortnight, then wash well with proof sps., and in most cases a cure is sure.

A GREAT HELP FOR BROKEN WIND OR HEAVES.—Gum Assafetida, pulv., 2 ozs.; Gum Camphor, 1 oz. Make into eight powders, one to be given every night in a bran mash or other wet feed. Avoid hay and corn, *i. e.*, for the time of treatment.

Another.—Give the animal a one-half pound dose of common bird shot, and he will heave no more until they pass from him, which usually takes a week.

R. Q. H.

TO DESTROY WEEDS.—A recent writer states that he effectually disposed of certain weeds in the lawn, among them horseradish, "by cutting with a spade two or three inches below the crowns, and pouring on the part left in the ground a little kerosene. The sod was dropped back, and the horse-radish failed again to put in an appearance. Any troublesome weeds can easily be killed in this way without injuring the grass."

Bread was first made with yeast in 1650.

The Florist.

FLORICULTURE---FOR SEPTEMBER.

PREPARED BY JOHN FEAST, Florist, Baltimore.

This month the season will begin to change, when tender plants will have to be prepared for their winter quarters, and removed to the house in October. Such as have been planted out will have to be raised and carefully potted and kept in a shady situation till they recover from being disturbed, as they are more or less liable to loose part of their foliage. When taken from the open ground be very careful in the operation; some will need cutting down and divesting of their foliage altogether, if they cannot be moved with soil adhering to the roots; give plenty of water after potting, and keep in a cool situation.

Dahlias will now begin to flower; have them tied up neatly, and give occasionally a good watering of liquid Guano; this will make them flower and grow much stronger, besides increasing the tubers for another year.

Phloxes of fine kinds may be increased from cuttings of the young shoots, by placing them in a cool place.

Herbaceous plants of many kinds may safely be removed towards the latter part of this month.

Heliotropes, Petunias and Verbenas—Propagated from cuttings now, will make fine plants for spring.

Chrysanthemums struck from cuttings, pot off in small pots, and encourage the growth to flower this fall.

Lemon or Orange may still be budded if the sap runs, and any ornamental plant as *Double Peach, Cherry, Double Flowering Almonds*, which are quite ornamental when put on tall stems, and admirably adapted for a standard on lawns.

Pelargoniums, raised from cuttings, pot off in small pots, and as the old plants begin to grow freely give a little more water.

Japan Lillies.—As the leaves begin to show decay be more sparing of water.

Calla, or Lilly of the Nile.—Repot in good sized pots.

Peonias may now be taken up, separated and planted again.

Gladioli, Amyrillus, and other tender bulbs, may be taken up the latter part of the month.

Greenhouse Bulbs, as *Oxalis, Ixia, Sparaxis*, and all such, repot in suitable sized pots; select the strongest bulbs for flowering, and plant in each pot four to six roots, which is enough to flower, and have a fine bloom.

Roses will need repotting—prune before taking in the house, which will give an early bloom.

Chinese Primroses.—Repot and bring forward; seedlings repot in small pots, and keep in a shady situation.

Camelias will now have formed fine buds; top dress the tubs or pots with fresh soil, and give frequent syringings of fresh water; this keeps the plants clean, and hardens the young wood, besides giving them a healthy appearance,

Seeds of many kinds may be now sown, as *Pansies, Stocks, Mignonette, Alyssum*, and such; for flowering through the winter prepare good, rich, light soil, with a little sand.

Caladiums, Begonias, Gloxinias, Tydea, and all such like a shady place, which suits their foliage best; careful watering is required to have them in perfection, and there is nothing more beautiful when in fine order; no collection should be without them, as they are plants for the greenhouse in the summer, when all the hardy plants are out of doors, and giving a continual bloom during the summer months.

All the *Hardy Greenhouse Plants* need looking over, and getting in readiness to move in; repot such if needed; prune and tie up neatly before bringing in the house, and be careful to divest them of the different pests that infest them, thereby saving much trouble when in the house, as many collections are injured for want of proper care in housing plants.

CULTURE OF THE AURICULA.

Primula Auricula, or *Swiss Primrose*, is a native of the Alps, a plant generally known in Europe, but rare in this country, but few being cultivated by our florists. Of all the herbaceous plants grown, none are more beautiful when in flower, giving every hue imaginable, and keep in bloom for some time. It has been said that it is difficult to grow them, which I have found otherwise, having a fine collection and flowering with me every year, and no more trouble than the common *primroses*. In the winter keep them on the front shelves of the greenhouse, in four-inch pots, and as they grow shift in five-inch for flowering, keeping them in the same condition as other plants, and in putting them out of doors, place them where they will get the morning sun, a little shady. Having now many exposed to the sun and stood remarkably well, the soil I find best is loamy mixed with a little sand or peat leaf soil, and a portion of well rotted cow manure, with good drainage. I find they keep better in a greenhouse than in cold frames, which are liable to damp and rot the roots. They are easily raised from seed or division of the roots, and next month is the proper time to separate them—it is a very hardy plant, but difficult to withstand our winters.

JOHN FEAST.

Increase of Stock.

Beginners in apiarian science are greatly tempted to increase their number of stocks too fast. The bees are gathering honey rapidly, and they think the more new colonies they get the better. If we could predict what the season will be through July and August, and be sure of a supply of honey, it might answer to increase now; but this we cannot do, and as experience has taught us that if a drouth occurs, strong colonies only are safe and in condition to hold their own until fall pasturage, while the weak ones that have been divided and subdivided are sure to give no profit if they do not actually perish, we arrive at the conclusion that strong colonies are the only profitable ones, and the sooner we learn how to keep all we have strong, at all times, the sooner will the whole secret of successful bee-keeping be accomplished. If colonies are allowed to become weak by overswarming or other cause, they are in danger of being destroyed by the moth worm.

Ladies Department.

MAIDEN FAIR.

[Fortunatus Crosby, who died in Louisville a few days since, was the author of the following poem, called "Maiden Fair," which Mr. Prentice repeatedly pronounced the finest lyric production of any American poet. It was addressed to Miss Sallie Ward at the brightest period of her young life:]

All around and all above thee,
In the hushed and charmed air,
All things woo thee, all things love thee,
Maiden Fair!

Gentlest zephyrs, perfume breathing,
Waft to thee their tribute sweet;
And for thee the spring is wreathing
Garlands meet

In their caverned, cool recesses,
Songs for thee the fountains frame;
Whatso'er the wind caresses,
Lips thy name.

Greener verdure, brighter blossom,
Wheresoe'er thy footsteps stray,
O'er the earth's enamored bosom,
Dwell away!

Wheresoe'er thy presence lingers,
Wheresoe'er its brightness beams,
Fancy weaves with cunning fingers,
Sweetest dreams;

And the heart forgets thee never,
Thy young beauty's one delight;
There it dwells and dwells forever!
Forever bright!

ONE WAY TO A HUSBAND'S HEART.

Too much cannot be said or written on the subject of cooking, for life, health, prosperity and happiness depend upon the quality of food we eat. Many a man can trace his fallen fortunes and shipwrecked hopes to heavy bread, tough biscuit, and other poor cooking.

Stomachs ought to have sheet-iron linings to endure the burdens and insults imposed upon them by inefficient housewives.

Those long-faced, glum sort of people, to whom it seems a sin to laugh and drive dull care away, are most likely the victims of indigestion which brings on a multitude of diseases and makes invalids. So a man may work and do his best to accumulate a fortune—but if his wife does not properly prepare his food, or, if they can afford it, see that her hired help does it, in the midst of increasing prosperity and bright prospects that man is very likely to fall sick; and when his strength is gone, the spirit of his projects dies out, and everything sinks down stagnant and lifeless.

Women have a far greater responsibility in these things than many of them like to admit or assume. It requires very little more effort to do things well than to botch them up. And there is a satisfaction in knowing a thing is rightly done which pays for the trouble.

Especially is it true of girls who go out to work, that they are apt to take the quickest way of turning off work, if it is not the best. They ought to feel the importance of their position, and that they must cook well and keep the house cleanly, if they desire the family where they live to be well and happy. In all departments of house-keeping, it costs less to be neat, orderly and systematic, and to know just how much butter, sugar, eggs, and flour to use on baking-day, as well as just how long to boil or roast a nice tender

piece of meat, that it may not be toughened, and its sweetness and nourishment cooked away.

Good housekeepers know so many ways to save and economise, of which an unpractised hand is entirely ignorant. Experienced cooks make delicious and inexpensive dishes of odds and ends left over from meal to meal, which in most households are more or less wasted. Who would believe that the well-picked bones of a roasted chicken, with two or three little beef bones taken from the broiled beef-steak which was served at breakfast, boiled two hours in about a quart of water, will make excellent soup, good for the sick and tempting to the most delicate taste? Try it and see.

Soup is strengthening, and can be made much cheaper and easier than most people imagine. Beef bones are just as good for soup after they have been roasted as any, and save much expense.

There is no accomplishment for which a woman has so much reason to congratulate herself and be proud, as for being a good housekeeper, and the foundation of house-keeping is to be a good cook.—*Elm Orlou in Pomeroy's Weekly.*

HOUSEHOLD ECONOMY.

If bread and milk were used more extensively animal food would be found less necessary and a saving in that part of the household expense would consequently be made. When the bone, fat, and water is deducted from the butcher's meat, as usually purchased for family use, the residuum is obtained at high cost. In bread, every hundred pounds weight is found to contain 80 pounds of nutritious matter; butcher's meat, averaging the various sorts, contains only 31 pounds. Turnips which are the most aqueous of all vegetables used for domestic purposes, furnish only 8 pounds of nutritious substance in 100 pounds; carrots 14 pounds, and what is remarkable as being in opposition to the hitherto acknowledged theory, 100 pounds potatoes yield only 25 pounds of substance which is nutritious. According to this estimate, 1 pound of good bread is equal to 3 pounds of potatoes, 75 pounds of bread, and 30 pounds of butcher's meat are equal to 300 pounds of potatoes, showing that, for the sake of economy, this vegetable cannot be profitably used, except when it can be obtained at a low cost. Eggs though nutritious in some respects cannot support life without the addition of some other food containing phosphates. Liebig says, "With meat, we are able to sustain the life of a carnivorous animal, but not so with eggs, a dog eats the egg, but does not digest it; and in the presence of a dishful of boiled albumen, or boiled yolks of eggs, or of both together, he will die of starvation." On the other hand rice, which contains the phosphate, is wanting in albumen, and must be eaten in conjunction with meat or milk to supply this deficiency. If the matter of diet were more thoroughly looked into, increased health would frequently be obtained at a saving of expense.—*Journal of Applied Chemistry.*

A Live Home Journal—Notable Change.

Last October, *Hearth and Home* passed into the hands of Messrs. ORANGE JUDD & Co., of 245 Broadway, New York, the well known publishers of the *American Agriculturist*—a journal long without a rival in sterling value and circulation. The marked improvements then expected to appear in *Hearth and Home* have been fully realized, and it is now one of the choicest illustrated journals anywhere issued for the family circle—adapted to both the juvenile and adult people, and meeting the special want of the housekeeper. Besides it supplies very useful chapters for the garden and farm, and an important news sheet, giving a valuable *resume* of the news for a week, up to the moment of issue. From \$500 to \$800 worth of very fine engravings beautify each weekly number. We notice now a still further mark of enterprise on the part of the publishers; they have secured the exclusive editorial services of EDWARD EGERTSON, so widely and favorably known by his writings in *Scribner's Monthly*, and many other Magazines and Journals, and especially as the chief superintending Editor of the *New York Independent* for some time past. With this notable addition to the previously large and strong editorial force, *HEARTH AND HOME* can not fail to merit and command a prominent place in every household, in village, city, and country. Specimen copies can doubtless be obtained of the publishers, as above. Terms only \$3 a year. Single numbers 8 cents. *Hearth and Home* and *American Agriculturist* together, \$4 a year. Better add one or both of them to your supply of reading; they are each worth infinitely more than the small cost.

THE PEACH TRADE OF NEW YORK.

How Producers and Consumers are Defrauded, and Immense Profits secured by Middlemen.

The *New York Semi-Weekly Times* has an article in which it is said :

"The entire system of handling peaches is arranged so admirably to favor the pecuniary interest of middlemen who sell the fruit, that in some instances the consignees take the fruit, sell it, pocket most of the money, return the producer his baskets and crates, and a bill for freight and commission over and above the aggregate sum declared to have been received for the entire cargo. Such an occurrence is by no means uncommon, as middlemen have everything their own way. They all operate as a unit to get the fruit at the lowest possible figure, and to make as much profit on the repeated sales of the same fruit as possible, before the supplies are purchased by consumers. Hence, the money made in the peach traffic is snapped up by a few operators, who usually appropriate only a few hours per day at their livelihood, realizing during the brief space of time, enormous profits."

It is further stated that the fruit arrives at Jersey City at 2 to 3 o'clock in the morning, when the cars are opened by the consignee, who seldom dwells long in effecting sales. The buyers are not very numerous and seldom disposed to bid against each other. The sales are soon made to these dealers who hurry away the fruit to New York or Brooklyn, and sell it at an "advance of two, three or four hundred per cent."

Tricks of Large Dealers.

In many instances, it is said, John Smith, Jay Jones and Peter Funk enter into a copartnership to buy and sell fruit, under the name of "Smith, Jones & Co.," Peter Funk being the Co. No one, save these three, knows that Funk has any interest in the business of the firm. Peter Funk has a fruit stand, supposed to be his own, on another street from the stand of the firm. All consignments of fruit are made to "Smith, Jones & Co." When a cargo has arrived, Smith or Jones, or both, hurry away to the cars at the appointed hour of sale, and Peter Funk is always on hand. Well, he always pays whatever he bids, which is the only important requisite in the estimation of consignors. Smith or Jones unlocks the car containing their consignment of peaches, and offers fifty crates for sale. Peter Funk knows by the movements that the entire operation is under his control. "Who wants that line of baskets," says Smith, "for \$1 each?" No one bids. "Come Peter, buy that line," says Smith. "I want a hundred baskets of peaches, but I can't pay that price," replies Peter. "Will you give ninety cents?" "No." "Give me eighty?" "No." "Well, take 'em at seventy." "No, I don't want

'em at that figure." "Well, tell what you will pay." "I'll take all your consignment at forty cents a basket." "Give me fifty and they are yours." "No, I'll not pay one cent over forty." "Take 'em," says Smith.

The fruit is then taken to New York, and a bill of sale is rendered to the consigner, with check for the amount, less the freight and commission, before a single bona fide sale has been made. The peaches are for sale in New York early in the morning, and being in good condition the price is put at \$1.50 per basket. If the fruit averages \$1.25 per basket, Smith, Jones & Co. will realize 85c. per basket, besides the regular commission on the farce sale. The buyer then sells them for \$2 per basket.

"In many instances," it is said, "a part of a cargo of peaches will change hands four or five times before consumers get the fruit; and every seller pockets a generous commission. In consequence of such under-handed and tricky operations, producers realize exceedingly low prices for their products, while consumers are required to purchase at such extortionate rates that they can scarcely afford to pay the prices demanded."

The tricks of small vendors are also shown up, by which it is seen how imperfect fruit is worked off at high prices. It is also shown how consignees fill orders from surrounding towns and villages with fruit that cost forty cents per basket in Jersey City, and charge \$4 to \$5 per crate for it. In this and other ways described, it is said, the profits of the peach crop are pocketed by those who sell fruit, not by those who raise it.

The Practical Remedy,

It is said, is for producers to employ one of their number to sell their fruit. Most peaches are now sold from small places that are rented at about \$1 to \$1.50 per day. The sales are closed out each day, so there is no stock on hand to find storage for. By thus renting a cheap stand in New York, and handling their own fruit, a large part of the profits that now go to middlemen might be saved. "Then a producer having a cargo of fine fruit, could calculate with satisfactory certainty about how much he would realize for his crop before shipping it." Now it is further said, with "the present tricky and underhand manner of selling on commission, middlemen keep the prices constantly fluctuating, when the rates might be, with fair and straight-forward management, as uniform, and trade as steady, as the prices of coffee and sugar. Retail prices continue quite uniform from day to day, and there is no reason why wholesale rates should be reported at forty cents per basket to-day and eighty cents to-morrow, only that heavy operators realize greater profits in consequence of the fluctuations."—*Country Gentleman*.

USEFUL RECIPES.

USEFUL RECIPE.—Take (by weight) one part rosin, and three parts good clean lard. Melt them together over a slow fire, so as not to scorch or burn, and when melted let it cool, then it is ready for use, and it is good for greasing leather—such as is in constant use out of doors. It will cure scratches on horses legs, if applied as soon as the disease is discovered. Use no water; but brush off dirt if any on the legs. Then apply a good coat of the grease—enough to cover the parts affected—once a day, and I have known two applications to cure the worst kind of a case. It is good for old scabs on horses or cattle, and is good for galls and saddle scalds on horses.—*Cor. Southern Cultivator.*

SIMPLE, RAPID AND EFFECTIVE CURE FOR COLIC IN HORSES.—I send you a simple remedy for colic, which in my experience has proved very effective. It consists in rubbing well the large veins on the sides of the neck, and those just behind the fore shoulders with spirits of turpentine. I have tried it and seen it tried a number of times, and it has never failed to give relief in from ten to fifteen minutes.—*RICHARD BOGGS, in Southern Cultivator.*

DRY SCRATCHES, &c.—Wash the horse's foot in soap suds, let it get dry, anoint with Spirits turpentine, and let remain for twenty-four hours, then make a strong solution of copperas and lye soap, wrap the affected part with a cloth, and keep the cloth wet with soap and copperas. In one week the horse will be well. "M." can cure his mule of her cough by drawing a small wisp of hair about the size of a goose quill from a horse's tail, cut about 1-16 inch in length with a pair of scissors, mix in meal or any other food that the mule will eat; do this three or four times, at intervals of a day or two between. I know this to be an infallible remedy.—*Cor. Southern Cultivator.*

MANGE IN PIGS.—Mange is similar to the itch in the human subject, and is caused by a minute insect which is hatched from eggs probably adhering to the skin. Give sulphur and other cooling medicines for the blood, and use mercurial ointment well rubbed upon the skin. Apply petroleum or carbolic acid to the pens and places upon which the pigs come in contact, or rub themselves. Harris, in his late work, recommends petroleum, applied to the skin of the pig.—*Western Rural.*

ACONITE FOR GARGET.—A dairyman writes to a western paper, that half a teaspoonful of the tincture of aconite, mixed with bran, and fed to a cow that has garget, or inflammation of the udder, will effect a cure, with certainty, within twenty-four hours. Says he learned it out of a newspaper, eight years ago, and it has been worth much to him every year since.

A CORRESPONDENT of the Rural New Yorker, at Summit, N. Y., recommends washing horses' legs in strong soap suds; then dissolve some (how much?) copperas in chamber ley, and wash them for a few days. Says this will cure scratches.

CURE FOR BLACK LEG IN CATTLE.—A correspondent in the *Western Rural* says: My father (who lives in Vermont) used to lose a good many calves by this disease when I was a boy at home, but by careful study we found it was caused by a sudden change of feed. We were careful about that, and when one was taken we gave it about a common charge of gun powder in half a pint of cider vinegar. It never failed with us. After a calf got so bad it could not stand, we gave it three doses in an hour, and it cured it.

CURE FOR BOTS.—Take three raw Irish potatoes about the size of hen's egg; grate or beat fine; put in a quart of tepid water; stir well, and give to the horse.—*Cor. Country Gentleman.*

RECEIVED.

From the Baltimore News Company, (late Henry Taylor & Co.,) Sun Building, we have received the following:

HORACE TEMPLETON. By Charles Lever. This is the eighth volume of the new, cheap and popular edition of the works of Charles Lever, now in course of publication by T. B. Peterson & Brothers, Philadelphia, which are having a very large sale, for Charles Lever has no rival in that free, manly, dashing style of sketching life, manners, and humorous incidents, to which he has devoted himself. His reputation is world-wide. The popularity of his novels, "Horace Templeton," "Davenport Dunn," "Arthur O'Leary," "The Knight of Gwynne," "Tom Burke of Ours," "Harry Lorrequer," "Charles O'Malley," "Jack Hinton," "Con Cregan," and "A Rent in a Cloud," have never been exceeded. His works are full of genial humor, brilliant wit, and striking characters. "Horace Templeton" is issued in a large octavo volume, with a portrait of the author on the cover, price Seventy-five cents.

THE SOWER'S REWARD, by author of "Mary Powell." This charming story of domestic life opens among a number of French and English, travelling in a Diligence in a beautiful part of France. Mr. Hobson and daughter, Adeline and Maurice, with the Villanos, being the principal actors. The latter lead a Bohemian life, travelling from place to place, with friends, until Maurice—who comes to them none too soon—assist and cheers them with words of comfort and wisdom. Professor Villanos is informed of the distressed condition of his wife by her friends, and the story goes to prove, how much religion may do for those who read and learn—told in a quiet and agreeable manner, making it an excellent companion to while away a couple of hours. Published by T. B. Peterson & Brothers, Philadelphia, Pa. Price 25 cents. Copies will be sent to any place, postpaid, on receipt of price.

Carroll County Agricultural Fair.

The Third Annual Fair of this county will be held at Westminster, Carroll county, Md., beginning October 3d, and continuing four days. The List of Premiums sent us is on the most liberal scale embracing every thing that may be useful and convenient in the business of Agriculture and Horticulture, or be the product of either. The Committee in the pamphlet sent out offer a number of Agricultural and Scientific magazines as premiums, and say:

"It will be noticed that the Society in giving premiums this year have introduced a new feature not heretofore acted upon, and which is to some extent different from the policy pursued by other societies, to wit: The offering of various periodicals and recommending their acceptance instead of money, believing that the circulation and reading of sound Agricultural journals, will be more beneficial to the community, than the mere distribution of a few dollars and cents among them each year through the Society. While they urge all to accept some one of the journals named, leave it to the successful exhibitors for the article or articles on which they are awarded premiums, to say whether they will elect to take such periodicals or the money, and give them the further privilege to select from among any of the papers or magazines named, according to price and amount of premium awarded."

Officers of the Society.—President, Augustus Shriver; Vice President—Jeremiah Rinehart; Secretary—William A. McKellip; Treasurer—Richard Manning. Board of Directors—David Fouke, Edward Lynch, Jos. H. Hoppe, David H. Byers, Geo. W. Matthews.

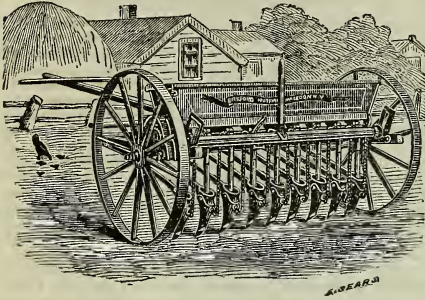
Catalogues, &c., Received.—From Ellwanger & Barry, Mount Hope Nurseries, Rochester, New York, the following Catalogues:—No. 1—Descriptive Catalogue of Fruits 20th edition.—No. 2, Descriptive Catalogue of Ornamental Trees, Shrubs, Roses, Flowering Plants, &c., 21st edition.—No. 3, Descriptive Catalogues of Plants.—No. 4—Wholesale Catalogue for Autumn of 1871.—No. 5, Descriptive and Illustrated Catalogues of Bulbous Flower Roots, &c. This is one of the most reliable Nurseries in the country, and stock large and varied. Send for a copy.

From Maxwell, Pratt & Co., Dansville, Livingston county, N. Y., their Wholesale Price List of Canasagara Nurseries, of Fruit Trees, Berries, &c.

From James Vick, Rochester, New York, his Illustrated Catalogue of Hardy Bulbs for 1871, and guide to the flower garden, with full directions for culture of Bulbs, handsomely embellished with new varieties. Vick's Floral Guide and Illustrated Annual Catalogue of Flower and Vegetable Seeds for 1872, will be ready to send out by the 15th of December next—it will make 100 pages with 300 fine wood engravings of Flowers, &c.

THE FARMER'S FAVORITE.

BICKFORD & HOFFMAN'S SEED DRILL.



Alighting from a train on the N. Y. Central, one day last spring, we walked a mile over the hills to the old town of Macedon, where is the headquarters for the manufacture of "The Farmer's Favorite," otherwise called "Monarch of the Seeding," a very complete seed drill for putting in all manner of grains, and also for distributing all manner of prepared fertilizer. This is the old establishment of Messrs. BICKFORD & HUFFMAN, and one object of our visit was to examine into the anatomy of the machine which had carried off the honors of so many contested fields, among which was the N. Y. State Agricultural Society's first premium at the great Utica trial, after a thorough test in the hands of a select committee of most eminent and proper men. We went leisurely through all the shops, from the foundry to the finishing-room, and saw how each separate piece was made, and how the pieces were fitted together, and then handled a finished drill, when we began to comprehend the genius of its mechanism, and the long study and perseverance by which its inventors and manufacturers had arrived at such wonderful results. Look at the accompanying cut and compare it with any of the expensive and complicated double-bank English drills, and you will see that in its complete simplicity it embraces every desirable feature in a form at once so simple and effective that you wonder at the result.

The parts not shown in this engraving are equally master-pieces of mechanism with those which do appear. And to commensurate the grain bottom of the seed box, is a series of inclined planes or bevels, forming perfect tunnels over each seed tube. The seed falls into a distributor, which is a curious iron shell with a semi-circular cavity and regulator, so constructed and operated that the feed is certain and under complete control, giving out any desired quantity per acre, and adapted to any size of grain, from wheat to corn and peas. The ground tubes are of a new device, jointed, so that the top is always in the same relative position to the drag-bar and conductor. The drag-bar is made of wrought

iron, and the brace-bar attached to the lower ground tube is held by a wooden pin, to prevent breakage. It has also a self-acting gutta percha spring attachment to the brace-bar, when desired, which will allow the hoe to go safely over any obstacle. The hoes are of steel, with double reversible points.—One of the prime excellences of this Drill is the Tube Shifter, by which the hoes can be shifted from line to zig-zag, and *vice versa*, instantly, while the machine is at work.

Usually a drill works best with the hoes in line; with this tube shifter, the operator can work with hoes in line on any field, throwing them into zig-zag to pass stony or lumpy places, and return them into line when passed. This also enables the operator to jerk off rubbish or top-dressing.

The back roller is another new and superior feature of the Favorite. When the lever is turned down the tube chains are wound around the roller, and the roller itself travels up by its cog-wheels at the ends, into the iron stirrups, thus securing a rapid elevation of the hoes. By another new device, when the hoes are raised the drill is instantly out of gear, leaving no seed uncovered, and when the hoes are down the drill is always in gear. This puts the working of the drill in perfect control of the operator with the use of a single lever.

These drills are made of three sizes, viz :—eight, nine and ten tube. All the materials are carefully selected and the workmanship is first-class. A fertilizer or guano attachment is also furnished for such customers as desire to sow any of the prepared manures, either dry or damp. This is a very effective thing, and cannot fail to meet the requirements of a complete distributor of guano, bone-dust, lime, or any like fertilizer. It has also a grass seeder which works with equal certainty. All drills are sold with a liberal warranty to the purchaser. We might say much more in behalf of this Monarch of the Seeding, but must direct those interested to apply for further particulars to S. N. GALLUP, General Agent, Macedon, Wayne, Co., N. Y., or to W. L. BUCKINGHAM, General Southern Agent, 59½ South Charles street, Baltimore, Md. The drill is also manufactured by GLENN & HALL Manufacturing Company, Rochester, N. Y.; FERRELL, LUDLOW & ROGERS, Springfield, Ohio; H. M. SMITH & Co., Richmond, Va.; Charlottesville Agricultural Works, Va., and JOS. HALL, Oshawa, Ontario, Canada. Call on any of these manufacturers, or send for illustrated circular, and find out all about it.—S. D. H.

[The above description of the "Farmer's Favorite" Grain Drill, and the establishment of the Messrs Bickford & Huffman, at Macedon, New York, is from the *Rural New Yorker*, and written by the Traveling Corresponding Editor, our old friend Col. S. H. Harris, formerly of the "*Ohio Farmer*," with the new improvements recently made to the "Favorite" it is held as the most perfect Grain Drill now in use.]

EXCURSION OF THE MARYLAND EDITORS' ASSOCIATION.

On the morning of August 7th, we accompanied the members of this Association and several invited guests, on an excursion over the main stem, Central and Ohio and Lake Erie divisions from Baltimore to Sandusky city, and thence to the charming watering place and summer resort "Put-in-Bay," some twenty miles west of Sandusky, beautifully located on the lake shore on Put-in-Bay Island. The island receives its name from the fact of the great naval chief, Perry, having "put-in" there with his fleet after his great victory during the war of 1812. The excursion was undertaken through the polite invitation of John W. Garrett, Esq., president of the Baltimore & Ohio Railroad Company, for which purpose special cars were provided, including a Commissary car, which conformed with the view to refresh the inner-man, the whole being under the supervision of that elegant gentleman, Edward Potts, Esq., private Secretary to President Garrett, and whose kind attention added much to the pleasure of the trip. We do not propose to speak of the trip in detail, nor of the scenery along the route, which has been so often portrayed by writer and painter.

Along the route, as far as Cumberland, we gathered up a number of our brethren of the Quill, from the western portion of the State, little else of interest occurring until we arrived at Columbus, the capital of the great State of Ohio, where the Association was handsomely welcomed and entertained by representatives of the press and city officials. After some four or five hours spent in Columbus we departed for our destination; before leaving, however, Walter Quincy, Esq., Engineer of that section of the B. & O. R. R., formerly of Baltimore, called on the Association, and in a neat speech welcomed and bade adieu, and detailed that princely and portly fellow, C. T. Starr, Esq., of Zanesville, Freight Agent of Baltimore & Ohio R. R., to accompany the excursionists, and who was, during the entire trip, assiduous in adding to the enjoyment of all, and who on the Island captured that Red-Bat which produced so much curiosity and merriment, and which was presented to James D. Gilmour, Esq., of the Eutaw House, who now has it on exhibition either at the "Eutaw" or "St. Clair." Leaving Columbus we reached Sandusky city about 7 P. M., took supper at the Lake House, then shipped aboard the superb steamer "Jay Cooke," and soon found ourselves floating over the lake for the point of destination, "Put-in-Bay," which we reached about half-past nine in the evening, landing at the Put-in-Bay House, a very extensive building, four hundred feet front, three stories high, with capacious wings running back, admirably kept by Messrs. Sweny, West & Co., and capable of accommodating eight hundred to one thousand guests, we soon found comfortable quarters. There is also another very large and excellent hotel near by, where three or four hundred visitors are sojourning, whose exceedingly clever landlords are Messrs. Geoffrey & Beebe. It is called the "Beebe House." The Island where the hotels are called Put-in-Bay Island, and contains some 1700 acres. About fifteen hundred guests are now sojourning there, with large numbers arriving daily, mostly from the west and north-west.

Very few persons who have not visited this region are aware of the extent to which the culture of the grape has been carried on the numerous islands which dot the upper extremity of Lake Erie. Put-in-Bay Island, Kelley's Island, and Middle Bass Island are almost exclusively devoted to vineyards, and a visit to their luxuriant shores brings to mind the attractive descriptions given of the wine growing regions of the Rhine, or the vine-clad slopes of the valleys of California. The ameliorating influence of the Lake atmosphere upon the rigors of this northern latitude have been found to be peculiarly favorable for the growth and development of the Catawba, Delaware and Concord varieties of the grape. The spring frosts do not occur here so late as at localities further south, and the expanse of melting ice around these islands in the opening of the season having the desirable effect of retarding vegetation until the season has so far progressed that the tender buds of the vines are almost certain to escape the blighting injury so common at inland localities, even although much further south. We had the pleasure, during our brief stay at Put-in-Bay Island, to visit a number of the vineyards on this and the neighboring islands, whose verdant shores form the boundaries of what is known as "Put-in-Bay." Everywhere we found the grapevines loaded with rich clusters of fruit, and the wine cellars of the owners well stored with an abundance of really delicious wine. The fruit in this latitude, of course, does not ripen so early as in Maryland, Virginia and North Carolina, and therefore the grapes were green, and, we suppose, *sour*, but not so

the wine—that we found ripe, mellow and tempting. The great abundance of the yield of good, palatable, unadulterated wines in this locality is such that the product can be and is sold at prices which bring it within the reach of every one. Wines can be bought here at \$1 and less per gallon, and the consequence is that wine has largely supplanted stronger stimulants, such as brandy and whiskey.

There are some nineteen islands from one-half to twenty miles distant from Put-in-Bay, among which is the little romantic Gibraltar Island, the property of the distinguished banker, Jay Cooke, Esq., which is beautifully located about a half mile from the Put-in-Bay landing—it contains seven acres, is solid rock, sloping gradually at certain places to the water, at others bound by rocky cliffs. Midway of the Island stands the splendid residence, three stories, with double front, and elegantly furnished. At the special invitation of the owner the Association made a visit to the Island, in a superb yacht, and were hospitably received by Mrs. McMeans, the lady in charge during the absence of Mr. Cooke. Short speeches were made on the occasion by J. J. Stewart, John Wells, Edward Potts, Wm. H. Ruby, Esqs., Hon. George W. Wilson, and others. After ascending the tower and taking a view of the entire lake, studded with numerous islands, most of which are dedicated to the growing of grapes, the company took leave of Gibraltar and returned to the Put-in-Bay House. In the evening a grand complimentary hop was given in honor of the Association, which was largely attended by the grace and beauty of the Island, many of the members engaging in the whirling dance.

A complimentary dinner was given on Thursday by the proprietors, in the grand saloon. It was gotten up in a very elegant style, with everything to invite the appetite and please the eye. About one hundred and fifty were seated, embracing the Association and invited guests, among whom were Gen. Ward, of Ohio, Daniel Applegate, and J. A. Dean, Esqs., of Zanesville. Regular toasts were offered, and any quantity of short and long speeches made by John Wells, Esq., Dr. C. E. Tarr, Charles A. Wailes, Esq., Col. John W. Baughman, J. J. Stewart, Esq., and General Ward, of Ohio, who eloquently responded to the toast, "Ohio wedded to Maryland by material interests, may she never be divorced." Agriculture not having been toasted "*The Farmer*" man had no opportunity of displaying his oratorical qualities, but has promised to read a paper at the next gathering "On Manures and their Application," provided the fraternity will consent to listen to him, and the "*Correspondent*" man will do the heavy clapping.

The dinner being good, the wine delicious, the jokes few—save from our jocular friend STARR—the speeches many, and some long, the party remained until a late hour, when the Hon. President overcame with the labor of the day pronounced the benediction, and the banquet was dissolved. The dinner over, a photograph artist insisted upon picturing the corps, accordingly we were grouped in a most flattering manner, but owing to the oscillations of certain members the artist was compelled to take some three or four negatives, and after all, his labors did not render satisfaction to the entire group, especially our friend Gallagher, of the *Charlestown Free Press*, who protested that the position of himself, especially his eyes, "were too prayerful." We did not secure a copy of the group to place in our sanctum owing to the fact that the ladies bought them up with great avidity, being charmed with the handsome faces of some of our Eastern and Western Shore Editors, especially the Westminster man; who was declared really irresistible.

On Friday morning we took our departure from this delightful resort with reluctance, and arrived in Sandusky at 9 o'clock, where we were cordially received by a delegation of Editors, the mayor and other city officials, and proffered the freedom of the city, which we accepted. Gen. Wm. H. Mills entertained the party in a most generous manner at his private residence, where we were received by the General, his gifted lady and beautiful daughter, and after discussing the viands and mildly testing the "Mills" brand of sparkling Catawba, made a tour in carriages provided for the party, of the entire city, visiting a number of the leading factories, wine vaults, &c. Sandusky city, numbers about 15,000 inhabitants, is rapidly progressing and is destined to take rank among the cities of the great State of Ohio. We are indebted for kind attentions to his Hon. Mayor Daniel, Dr. J. B. Massey, President of the City Council, J. F. Mack, Jr. Editor of the *Daily Register*, John R. Miner, A. E. O'Hagan, and other prominent gentlemen of Sandusky.

Having spent a most delightful day at Sandusky we left at 6 in the evening for home, where we arrived on Saturday evening at 10 o'clock, having travelled over 600 miles in 24 hours. James D. Gilmour, Esq., "the man who keeps two hotels,"—and knows how to keep them—on arriving at

THE MARYLAND FARMER

Baltimore invited the Company to supper at the Entwaw House, which was accepted by a number of us, who did ample justice to the well spread table and then retired to rest our weary limbs, after so toilsome a march.

NEW ADVERTISEMENTS.

P. K. Dederick & Co.....	Hay and Cotton Presses.
Tippecanoe Apple Paring Machine Co.....	Apple Parer.
Jesse Haney & Co.....	Great Treat for Boys.
John Saul.....	Sau's Nurseries.
Ellwanger & Barry.....	Fruit and Ornamental Trees.
Wm. S. Little.....	Commercial Nurseries.
James Vick.....	Illustrated Catalogue.
John Cook.....	Small Fruits.
J. E. Thorburn & Co.....	Annual Catalogue.
W. F. Heikes.....	Fall Catalogues.
do do.....	To Start a Nursery.
J. F. Temple & Sons.....	Farm Pumps.
Axel E. Steinbach.....	Stock, Seed, &c.
Geo. B. Hickman.....	Chester, Berkshire, Essex Pigs.
Chas. E. Heister.....	Cotswold Sheep.
Harry Sedgwick.....	Elmwood Steamer.
Alfred L. Kennedy.....	Polytechnic College.
Colwells, Shaw & Willard..	
Manuf. Co.....	Tin-Lined Lead Pipe.
S. W. Picklin.....	Stock for Sale.
John A. Wharton.....	7000 Chestnut Rails.
Hall's Husking Glove Co.....	Corn Husking Gloves.
E. Whitman & Sons.....	Coe Super Phosphate, Plaster, Bone, &c.
F. Sage.....	To Make Vinegar.
Merrell & Coleman.....	Fruit Trees.
D. H. Whittemore.....	Apple Parers.

Adams County, Pa., Agricultural Fair.--The Ninth Annual Exhibition of the Adams County Agricultural Society will be held at Gettysburg, on Tuesday, Wednesday and Thursday, the 26th, 27th and 28th days of September next, with Monday, the 25th, as Entrance Day. The grounds, buildings, stalls, track, &c., (among the best in the State), are in thoroughly good condition; and the premium list is liberal. An unusually full and interesting Exhibition is expected. Address H. J. Stahle, Secretary, Gettysburg, Pa.

Augusta County Agricultural Fair.--The Fourth Annual Exhibition of the Augusta county, Va., Fair will be held on their Fair Grounds, at Staunton, Va., on Tuesday, Wednesday and Thursday, October 17th, 18th and 19th, 1871, and be open to all competitors. For list of Officers, Premiums and Regulations, address W. A. Pratt, Secretary and Superintendent, Staunton, Va.

Putnam County Fair.--The Fourth Annual Fair of the Putnam county Fair Company, will be held at Eatonton, Georgia, commencing Wednesday, October 11th, 1871, to continue three days. The Exhibition will be both Agricultural and Mechanical. Address Robert Young, Jr. Secretary, Eatonton, Ga.

BALTIMORE MARKETS--August 23.

Prepared for the "Maryland Farmer," by GILLMORE & SON, Produce Commission Merchants, 194 W. Pratt st.

[Unless when otherwise specified the prices are wholesale.]

ASHES.--Pots steady at \$7.25@7.50.	
BEESEXAX.--33@35 cts.	
BROOM CORN.--Dull; Red, 3@4 cts.; Green, 6@7 cts.	
BUTTER.--Receipts continue in excess of consumption; for the lower grades prices are very weak, and sales only effected at low figures. Choice, 18@20 cts.; fair to good, 13@16 cts.; common, 10@12 cts.	
COTTON.--Market dull; shippers and spinners holding off.	
Ordinary.....	Upland. 14½ cents. Gulf. 15 cents.
Good ordinary.....	17
Low middling.....	17½
Middling.....	18
Good Middling.....	18½
COFFEE.--Active market, prices firm; job lots: ordinary, 15 cts.; good to prime, 16@17 cts.; fancy, 18 cts.--Gold duty paid.	20

EGGS.--Scarce and active at 18@20 cts. for fresh lots.	
FERTILIZERS.--No change to note. We quote:	
Peruvian Guano--gold.....	\$68 ½ ton of 2000 lbs.
Orchilla and Rodonda.....	30 ½ ton "
Turner's Excelsior.....	60 ½ ton "
Turner's Ammo. S. Phos.....	50 ½ ton "
E. F. Coe's Ammo. S. Phos.....	55 ½ ton "
Ober's Phospho-Peruvian Guano	65 ½ ton "
Ober's Super-Phosphate of Lime..	55 ½ ton "
Soluble Pacific Guano.....	60 ½ ton "
Patapasco Guano.....	60 ½ ton "
Flour of Bone.....	60 ½ ton "
Andrew Coe's Super-phosphate..	52 ½ ton "
Baugh's Raw Bone S. Phos.....	50 ½ ton "
Excellenza Cotton Fertilizer.....	56 ½ ton "
Excellenza Soluble Phosphate.....	56 ½ ton "
Excellenza Tobacco Fertilizer.....	60 ½ ton "
Meat and Bone Guano.....	40 ½ ton "
Magnum Bonum Soluble Phos.....	52 ½ ton "
Ruth's "Challenge" Sol. Phos.....	60 ½ ton "
Zell's Raw Bone Phosphate.....	55 ½ ton "
Rhodes' do.....	50 ½ ton "
Mapes' do.....	60 ½ ton "
Bone Dust.....	45 ½ ton "
Hornor's Maryland Super Phos.....	50 ½ ton "
Hornor's Bone Dust.....	45 ½ ton "
Dissolved Bones.....	60 ½ ton "
Baynes' Fertilizer.....	40 ½ ton "
"A A" Mexican Guano.....	30 ½ ton "
"A" do. do.....	30 ½ ton "
Moro Phillips' Super-Phosphate..	50 ½ ton "
Whann's Raw Bone Super Phos.....	50 ½ ton "
Md. Fertilizing & Manufacturing Co's Ammoniated Super-Phosphate	.55 ½ ton
Fine Ground Bone Phosphates	.30 ½ ton
Plaster.....	\$2.25 ½ bbl.

FLLOUR.--Demand active for local trade, but light for export.

City Mills Super.....	5.00 @ 6.50
" Extra.....	6.50 @ 7.00
" Family.....	\$9.25
Howard Street Super.....	5.00 @ 5.75
" Extra.....	5.75 @ 6.25
" Family.....	6.75 @ 7.75
Western Super.....	4.75 @ 5.50
" Extra.....	5.75 @ 6.25
" Family.....	6.50 @ 7.50

FRUITS.--Dried.--Apples, 4@7 cts.; peaches peeled, 10 to 15 cts.; unpeeled quarters, 5@6 cts.; halves, 7@8 cts.; blackberries, 8@9 cts.; cherries, 20@22 cts.

GRAIN.--Wheat, active, prices firm, with fair shipping and milling demand. Prices for Red range from \$1.20 to \$1.45, and white \$1.20 to \$1.60 per bus. Corn, firmer; Yellow, 70@72 cts.; White, 73@76 cts. Oats, 43@46 cts. per bus. Rye, 70@75 cts.

MILL FEED.--Brownstuffs, 18@20 cts.; Light Middling, 27@30 cts.; Heavy Middling, 40@45 cts.

MOLASSES.--Porto Rico and English Islands, 45@55 cts.; New Orleans, 50@60 cts.

PROVISIONS.--Active. Shoulders, 7@7½ cts.; Rib Sides, 8½@9 cts.; clean Sides, 8@9 cts.; Sugar cured Hams, 16 to 18 cts.

POULTRY.--Quiet; small chickens, \$1.75@3.25; medium, \$2.50@3.00; large, \$3.25@4.00; old fowl, \$3.75 to \$4.50 per dozen.

RICE.--Dull; 8@9 cts.

SALT.--Ground Alum, \$1.40@1.50 per sack; Fine, \$2.10@2.20 per sack; Turk's Island, 45@50 cts. per bus.

SUGAR.--Grocery grades: Cuba, 9½@10 cts.; Porto Rico, 10@12 cts.; Demerara, 12@13 cts.

WHISKEY.--Dull; 93@94 cts.

RIFLES, SHOT-GUNS, REVOLVERS, GUN R. MATERIALS. Write for Price List, to GREAT WESTERN GUN WORKS, Pittsburgh, Pa. Army Guns, Revolvers, &c., bought or traded for. Agents wanted. aug-6t

WHALE CHASE--A splendid boys' story full of stirring adventure and interesting details of life aboard a whaler, just commenced in No. 39 of HANEY'S JOURNAL. On trial to any new subscriber three months for only TEN cents. "Specimens" of newsdealers only. JESSE HANEY & CO., 119 Nassau-st., N. Y.

Book and Job Printing of every description neatly executed at this office.

WHEAT! WHEAT! WHEAT!

[Established 1848.]

To the FARMERS and PLANTERS of Maryland and the South generally.

HORNER'S

MARYLAND SUPER-PHOSPHATE.

(We court the Chemist's inquiry)

After 23 years' experience in the Fertilizing business, and after establishing a wide reputation for the purity and excellence of his Bone Dust, the subscriber has been induced to prepare a Phosphate suitable to the requirements and every way worthy the attention of the Southern Farmer.

The "MARYLAND" is a rejuvenator and permanent improver of the soil. It stimulates equal to Peruvian Guano, and sustains equal to Bone, being composed almost entirely of these ingredients, with a very liberal percentage of Potash in the residuum. There is no adulterster nor inferior article used—every part of the Phosphate being of essential benefit to the land. Neither pains nor expense have been spared in its preparation, and we claim for it the greatest benefit to the farmer from the smallest outlay.

For Cotton, Wheat and Corn, and as a general stimulant and alimant for worn and impoverished land, there can be nothing superior. It is warranted to run as high in Ammonia, and higher in Bone Phosphate, than any other fertilizer in the market.

Price \$50 per ton, in new bags. No charge for delivery.

JOSHUA HORNER, Jr.
Manufacturer and General Commission Merchant.
Office and Warehouse, 54 S. Gay St. General Warehouse, Cor. Chew and Stirling Sts., Baltimore, Md.

BONE DUST \$45,

Bone Meal \$50, Dissolved Bone \$47,

Our own manufacture, in new bags; Eastern and Western Bone Dust, \$35 Peruvian Guano delivered from Peruvian Government Warehouse at the lowest rates. No charge for delivery.

JOSHUA HORNER, Jr.

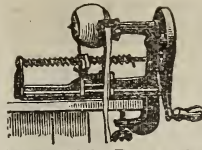
HALL'S PATENT HUSKING GLOVES!



HALF GLOVES.

FULL GLOVES.

The very best thing ever invented for husking corn. They give universal satisfaction in use. A man can husk from $\frac{1}{2}$ to $\frac{3}{4}$ faster with them. They absolutely prevent sore hands and cold fingers. The half gloves cover the parts of the hands which become sore. Price \$1.50. The full gloves are made in the best manner of tanned buckskin; price \$2.50. Both styles have claws attached and made of three sizes—large, medium and small, for both right and left handed persons. Sent prepaid on receipt of price. A liberal discount to dealers. Address, **HALL HUSKING GLOVE CO., 90 South Water Street, Chicago, Ill.**
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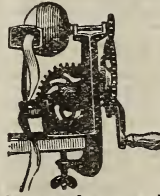


The Best, Cheapest,
and only Combined Apple
Parer and Slicer ever made.
It is the only machine that
does its work all at once. Five
turns of the crank pare and
slice an apple. It is a perfect
model of simplicity, durability,
and compactness. Every
family who owns an orchard
should have it! Every house-
keeper needs it! For preparing fruit for drying or family use,
it cannot be surpassed.

What the Press says of it.

"It is the very best for apple curers I ever saw, and worthy of universal adoption."—*Horace Greeley*. "It is a most excellent machine."—*Rural New Yorker*. "It does the work a hundred per cent better and nicer than the most careful human hand."—*Rock Island, Ill. Argus*. "We place it in the first rank, and it should be found in every house where the fruit itself is found."—*Davenport, Ia., Democrat*.

Retail Price at Factory, \$2.



The Union Apple Parer

is a machine simply for paring, and is so constructed that the knife moves half way round and returns, and pares an apple going each way. It throws the parings clear from the machine. The gears are all connected directly with each other, dispensing with the connecting rods, which has always been liable to work loose. It is the best in the market for hard, soft, and bruised apples.

Retail Price at Factory, \$1.

If you cannot find these machines in town, ask your merchant to send for them.

MANUFACTURED BY

D. H. WHITTEMORE, Worcester, Mass.

It

Hay and Cotton Press Works.

Established 1854.



DEREDICK'S HAY AND COTTON PRESSES.

P. K. DEDERICK & CO.,

PATENTEES AND SOLE MANUFACTURERS.

Dederick's Patent Progressive Lever Presses are baling at least two-thirds of the hay, straw, &c., baled in the country, and are familiarly known everywhere as the best Presses. 34 different sizes of Horse, Hand and Power Presses, for baling hay, straw, cotton, hemp, hops, cloth, hides, moss, husks, broom corn, &c. Send for Illustrated Catalogue, giving Sizes, Prices, and much other information useful to the farmer, planter, packer and shipper. Do not wait until Machines are wanted, then order in haste—but post yourself in season. We charge nothing for information. State your transportation facilities, market, &c. ADDRESS,

P. K. DEDERICK & CO., Albany, N. Y.

It

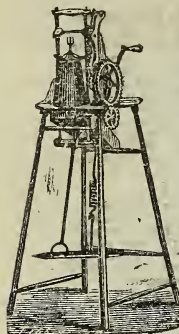
FINE STOCK FOR SALE.

Circumstances require so much of my time, for a while, in the South, I will sell any of my *Thoroughbred Horses, Colts, &c.*, or the same of my Imported *Percheron Norman Horses*, or fine bred *Short Horn Cattle* of any age, and at lower prices than ever before offered.

Apply early in September to me, or after to my agent,

S. W. FICKLIN,
BELMONT STOCK FARM,
near Charlottesville, Va,

sept-2t



Best machine ever offered for paring, coring, quartering or slicing apples. Does the entire work expeditiously, promptly and well—separating core and parings from the fruit at once. Will prepare more fruit for drying, pies, or family use, than six of ordinary parers. For farmers it is indispensable. Fruit can be taken care of in season, instead of allowing it to rot in the orchard. Three times the price of parer can be saved on every crop. A barrel of apples can be got ready for pies in one hour, saving in labor alone, in a single year, many times the cost of the parer. Territory for sale. Agents wanted. Send for circular.

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Life and Adventures of Robert Houdin, the most famous conjuror of the world, just commenced in No. 43 of HANEY'S JOURNAL, showing how, when a boy, he got his first lessons in magic, his youthful mishaps as an amateur, his amusing and thrilling adventures, how he invented and performed his marvelous feats, his great magical contest with the famous Arabian jugglers, &c. Every boy will long to read this fascinating narrative, and to give all the opportunity, HANEY'S JOURNAL, a handsome eight page (forty long columns) illustrated family paper, will be sent SIX months on trial to any new subscriber for 25 cts. JESSIE HANEY & CO., 119 Nassau-st., N. Y. Three splendid stories for boys just commenced; subscribe now and get them complete. Single copies of any newsdealer—none free—no premiums. tf

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**Standard and Dwarf Fruit Trees.
Grape Vines and Small Fruit.
Ornamental Trees, Shrubs and Plants.
New and Rare Fruit & Ornamental Trees.
Bulbous Flower Roots.**

Descriptive and Illustrated priced Catalogues sent pre-paid on receipt of Stamps, as follows:
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**ELLWANGER & BARRY,
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COMMERCIAL
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Send for a *New Circular* of Prices, per doz., per 100, per 1000, *Autumn of 1871.*
Choice Things, New and Old, of fine, thrifty growth.

A COLORED PLATE of the *Mt. Vernon*, (best new Winter Pear,) free to all.

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Sept-2t

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Business University. The only school in America especially devoted to training young men and boys for a successful start in business life, and for becoming useful, prosperous citizens. The oldest practical Commercial College, and only one assisting graduates to position. Total expenses \$125. Address for catalogue of 3,000 graduates in business, H. G. EASTMAN, LL.D., President, Poughkeepsie, New York. It

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OF
HYACINTHS, TULIPS, LILLIES,
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Is now published, and will be sent FREE to all who apply. ADDRESS,

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STRAWBERRIES, RASPBERRIES, CURRANTS, BLACKBERRIES, GRAPE-VINES, CONOVER'S COLOSSAL ASPARAGUS, for sale by

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THE ELMWOOD STEAMER for steaming food for stock is the **Best and Cheapest.** Useful for any purpose where steam is used. All who have tried it are more than pleased with it, as it makes a *great saving* in Grain and Hay. Every Steamer warranted, and *satisfaction guaranteed.* Enclose stamp for 8 page circular, to HARRY SEDGWICK, Manufacturer, Cornwall Hollow, Connecticut. sept-3t

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From thorough-bred imported stock, for sale at reasonable prices—Yearling Rams, Ram Lambs, and a few Ewes. My Ram Lambs are very fine, the get of a strictly first-class imported Ram.

**CHAS. E. HIESTER,
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Chester Co., Pa.**
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OF THE STATE OF PENNSYLVANIA,
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Re-opens September 19, 1871. Thorough Collegiate training for the practice of *Mine Engineering, Civil Engineering, Mechanical Engineering, Analytical and Industrial Chemistry, Metallurgy and Architecture.* The Diploma of the College is received as conclusive evidence of proficiency by the first engineers and companies engaged in works of improvement. For 19th Annual Announcement, address ALFRED L. KENNEDY, M. D., Pres. of Faculty.

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The undersigned offers for the fall trade, an extensive stock of well grown Fruit Trees, &c., at low rates :

PEARS.—Comprising a fine stock of standard Bartlett, Dwarf Duchess, and other leading varieties.

PEACHES, Apples, Cherries, Apricots, Plums, &c.

NEW PEACHES, raised by T. Rivers.—Early Beatrice, Early Louise, Early Rivers, &c., much earlier than Hale's.

New and fine varieties of PEARS.

GRAPE VINES, Strawberries, Raspberries, Blackberries, &c.

EVERGREENS, small sizes, suitable for Nurserymen, also larger plants in great variety.


ORNAMENTAL TREES, Flowering Shrubs, Fruit Tree Stocks, &c.

PLANT DEPARTMENT.

New and rare GREEN HOUSE PLANTS — A large collection suitable for Florists, Amateurs, &c., embracing a fine stock specially grown for winter blooming. Roses, all the new varieties, with the finest standard sorts, &c.

DUTCH BULBOUS ROOTS.

Our Importations are expected early in September, direct from the most eminent growers in Holland, who have supplied us nearly twenty years. They can be relied on as of the very finest quality — no inferior or second quality Bulbs imported.

 Catalogues mailed to applicants.

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CHOICE FRUIT TREES.

We offer, for the coming Fall, an exceedingly fine and well grown stock, embracing a large assortment of STANDARD & DWARF APPLE, PEAR, PEACH, PLUM, CHERRY, APRICOT, NECTARINES, &c., of the most desirable varieties; also GRAPES and SMALL FRUITS, (in great variety,) ASPARAGUS, RHUBARB, &c. Special attention given to selections for private orchards and Gardens. We also grow a fine assortment of ORNAMENTAL TREES and SHRUBS, EVERGREENS, ROSES, HEDGE PLANTS, &c.

Priced Lists mailed to applicants.

EDWARD J. EVANS & CO.

Nurserymen and Seedmen, York, Pa.

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AXEL E. STEINBACH,

JUNCTION CITY, KANSAS,

BUYS & SELLS ON COMMISSION

ALL KINDS OF

Nursery Stock, Seed, Pure Blooded, Imported and Fancy Animals, Fowls and Eggs.

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PEACH TREES.

We offer a VERY LARGE stock of the above, AT LOW RATES; also a complete assortment of

FRUIT AND ORNAMENTAL TREES, EVERGREENS, VINES, SHRUBS, &c.

The following catalogues will be sent on application, viz :

No. 1.—*Descriptive Catalogue of Fruits.*

No. 2.—*Descriptive and Illustrated Catalogue of Ornamental Trees, &c*

No. 3.—*Wholesale List for Nurserymen and Dealers.*

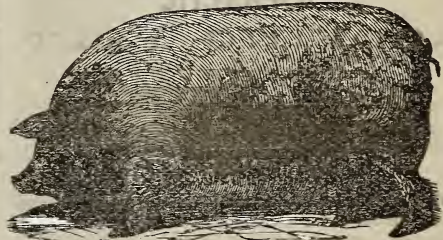
HOOPES, BRO. & THOMAS,

Cherry Hill Nurseries,

West Chester, Pa.


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PREMIUM CHESTER WHITES, BERKSHIRE AND ESSEX PIGS.



Bred and For Sale by

GEO. B. HICKMAN,
WEST CHESTER, CHESTER CO., PENN.

 Send for a Circular and Price List.

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A fine assortment of the best new varieties. Descriptive Priced List mailed to applicants.

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Pear, Plum, Apple and Cherry Trees,

FOR THE FALL TRADE.

A large stock of choice **GRAPE VINES**—Eumelan, Croton, Walter, Rogers', Arnold's, Martha, &c.

MERRELL & COLEMAN.

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7 000 for sale at Poor Jack Landing, on the Potomac. It is an excellent lot of RAILS, of good size. Price \$40 per 1 000

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ASPHALTIC ROOFING FELT.



This Felt is thick, durable and cheap. Coated ready for immediate use. Can be applied by inexperienced hands. Send for circular. Tarred and Dry Roofing Paper; Slating Nails. Pitch, &c.

For sale by **MERCHANT & CO.,**
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I have on hand for sale a selected lot of Cotswold Bucks, from finest Imported Stock, one, two and three years old; price \$40, \$50 and \$60 each, boxed and delivered on Steamer at this place. When three or more are delivered to one order, a deduction of 20 per cent. will be made from above prices.

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TIN LINED LEAD PIPE. PREVENTS LEAD POISONING.—Water flows through it as pure as if drawn through silver. It combines all the advantages of lead pipe as to strength, pliancy and durability; while is a Sanitary Safeguard it is invaluable. Price, 15 cents a pound for all sizes. Circulars and samples of pipe sent by mail free.

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WOOD PUMPS,

Measuring 213,566 feet in length, or sufficient in the aggregate for

A WELL OVER 40 MILES DEEP,

Simple in Construction—Easy in Operation—Giving no Taste to the Water—Durable—Reliable and Cheap.

These Pumps are their own recommendation.

For sale by Dealers in Hardware and Agricultural Implements, Plumbers, Pump Makers, &c., throughout the country. Circulars, &c., furnished upon application by mail or otherwise.

Single Pumps forwarded to parties in towns where I have no agents upon receipt of the regular retail price.

In buying, be careful that your Pump bears my trademark as above, as I guarantee no other.

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MANUFACTURED BY

HENRY BOWER, Chemist,

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MADE FROM

Super-Phosphate of Lime, Ammonia and Potash.

WARRANTED FREE FROM ADULTERATION.

This manure contains all the elements to produce large crops of all kinds, and is highly recommended by all who used it, also by distinguished chemists who have, by analysis, tested its qualities.

Packed in Bags of 200 lbs. each.

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AGENTS,

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FOR SALE BY


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And by dealers generally throughout the country. For information, address Henry Bower, Philadelphia.

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 Book and Job Printing of every description neatly executed at this office.

E. WHITMAN & SONS,

SOLE MANUFACTURERS OF

THE ANDREW COE

Super-Phosphate of Lime,

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A SUBSTITUTE FOR PERUVIAN GUANO, which enters largely into its composition.

The most reliable and best Fertilizer in the market.

Retail Price \$52 Per Ton of 2000 lbs., in Bags of 160 lbs.

As there are several brands of Coe Phosphate in the market, see that E. WHITMAN & SONS' name as manufacturers is stamped on each Bag. None other is the genuine article which has within the last few years acquired such an enviable reputation.

The following is the result of an analysis recently made by G. J. Popplein, Esq., Chemist.

Ammonia.....	3.22,	equivalent to	12.31 Soluble Sulphate of Ammonia.
Soluble Phos. Acid...	7 to 10,	"	16 to 18 Bone Phosphate of Lime.
Insoluble	"	...10 to 13,	" 22 to 24, " "
Potash.....	3.20,	"	5.92 Soluble Salt of Potash.

We have hundreds of testimonials from some of the largest and most reliable farmers in the South, which our space in this sheet will not permit of publishing. To be convinced that you will get the full worth of your money you have only to give it a trial.

Every manufacturer of a phosphate is loud in the praises of his own article, and all are ready to assert that theirs is the best. Some, no doubt, are conscientious in what they say, whilst other unscrupulous ones are fully aware that their articles are nearly valueless, and need the strongest kind of puffing to make them sell. Doing our own manufacturing, and having heard for the last few years the most flattering reports of our Phosphate, we have to hesitation in asserting that ours is equal to anything in the market. Our principal aim in making it is to supply our regular customers, many of whom have been dealing with us for fifteen or twenty years, and we recognise the importance of making it of a high grade, and always up to the standard

T. H. KEMP.

J. W. KERR.

CHOPTANK NURSERIES,

Denton, Caroline County, Md.

APPLE TREES—2, 3, and 4 years old, vigorous and healthy, (varieties suited to Southern soil and climate) at *exceeding low prices*.

VIRGINIA CIDER CRAB—3 to 5 feet, \$20 per 100, \$150 per 1000.

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Packing done in the best manner, and no pains spared to see that all orders sent us are shipped in good season and condition. Price Lists mailed free to all applicants.

mar 1y*

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PEACH TREES.

The attention of Planters is called to my large stock of Peach Trees for next full delivery. My assortment of Apple, Dwarf and Standard Pear, Cherry, Plum, Nectarine, Apricot, Wilson's Strawberry, and other small fruits, is extensive, and prices moderate.

THOMAS J. PULLEN,

Successor to Isaac Pullen,

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HIGHTSTOWN, N. J.

Aromatic Vegetable Soap.



For the Delicate Skin of Ladies and Children.
SOLD BY ALL DRUGGISTS

AVOID LEAD WATER POISON BY USING the TIN-LINED LEAD PIPE. It is the best and cheapest water-pipe where strength and durability are considered. Price 15 cents a pound for all sizes. Circular and sample of Pipe sent by mail free. Address the COLWELLS, SHAW & WILLARD MFG CO., No. 213 Centre St., New York. Also manufacturers of Block Tin Pipe, Lead Pipe, Sheet Lead, Solder, &c. Orders promptly attended to. it



Try the Maryland Farmer.

IRON AND WIRE FENCES.

Iron Ox Hurdle Fence, Iron Sheep Hurdle Fence, Wire Webbing for Sheep and Poultry Yards, Iron Farm Gates, Guards for Stable Divisions, Store Fronts, Factories, &c., Tree Guards, ORNAMENTAL WIRE WORK for Porches, Green Houses, &c.; WIRE RAILING for Cottage, Garden and Cemetery enclosures; Mosquito Netting and every variety of WIRE WORK. *Every information furnished by manufacturers.*

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POWER PLEDGED

Equal to any OVERSHOT, with
N. F. BURNHAM'S
NEW TURBINE.

Illustrated, Descriptive Pamphlet and Price List, for 1871, sent free by N. F. BURNHAM, York, PENNSYLVANIA. jy-6t

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WE WILL PAY AGENTS A SALARY of \$30 per week and expenses, or allow a large commission, to sell our new and wonderful inventions. Address mar-2t-jy-4t M. WAGNER & CO., Marshall, Mich.

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5000 to 10,000 Bushels Leached Ashes, for sale, by

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Soap and Candle Factory,

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We have a *limited supply* of

ST. LOUIS BONE FLOUR,

The particles of which are about the size of Timothy seed. *We recommend this as something very superior.*

We will send a sample, by mail, to any one desirous of seeing it, and think an examination will convince any one of its superiority over anything in the market.

Price \$48 per ton of 2000 pounds.

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ALSO,

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BERRY BASKET**

The Best Ventilated Basket yet Offered.

LIGHT, DURABLE AND LOW PRICED.

Fruit looks well, carries well and sells well in them.

Agents wanted in every fruit growing section.

Send for circulars to the General Agents.

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STOCK FARM.

I am breeding thorough bred Horses, the Imported Percheron Norman Horses, and the Black Hawk Branch of the Morgan Stock, for sale. Also Pure bred Short Horn Cattle, Chester White and Albemarle Improved Swine, (the latter a cross of Woburn and Chester Whites,) and Bramah Fowls for sale.

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S. W. FICKLIN,
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Landscape Gardener,**

wishes to notify the public that he is prepared to LAY OUT NEW GROUNDS in the neatest and newest styles and on most reasonable terms. All kinds of Garden Work, including Cemetery Lots, &c., will receive prompt attention, and be executed with practicability. In view of our long experience as a practical Gardener, we can guarantee satisfaction to all favoring us with orders. All kinds of PLANTS and TREES at Nursery prices. Residence—41 PENN STREET.

NEW AND RARE PLANTS.

The subscriber offers for sale on the most liberal terms many new

HARDY EVERGREENS,

of unsurpassed beauty. Also, a large collection of HOT and GREENHOUSE PLANTS, selected while in Europe, and still quite rare here. Also, everything worthy of notice, with Cut Flowers, Boquets and Plants for Decorations furnished on the lowest terms.

JOHN FEAST, Florist,

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P. S.—Having assumed the business of JOHN FEAST & SONS, it will hereafter be carried on in my own name. All orders will be punctually attended to for cash, or satisfactory reference.

jan-tf

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FOR SALE.

COTSWOLD SHEEP AND LAMBS, three months old \$15 each.

Southdown Sheep.

Pure Bred Chester White Pigs, as good as the best, \$10 each.

Alderney, Durham, Devon and Ayresshire Calves, best breed of Dogs; Maltese Cats; American Deer; Peafowls in full plumage; Rouen, Aylesbury and Muscovy Ducks; Bronze Turkeys and Geese; Blue Turkeys; White, Blue and Speckled Guinea Fowls; Madagascar and Angora Rabbits; Fancy Pigeons, Guinea Pigs, and all Fancy Fowls. Also, EGGS for sale.

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This book is designed expressly for Ship Builders, Lumber Dealers, and Mechanics. It gives correct measurement for all kinds of Logs, Lumber, Boards, Plank, Scantlin, Wood, etc., and has become the standard book for measuring lumber throughout the United States. Every Farmer, Lumber Dealer and Mechanic should have a copy. Ask your bookseller for it, or send THIRTY CENTS to me, and I will forward you a copy, post paid. Address GEO. W. FISHER, No. 6 Exchange Street, Rochester, New York.

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S. HARRIS & CO.,

186 Main St., Louisville, Ky.

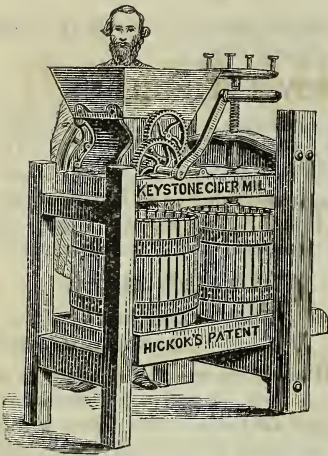
Premium Chester White Pigs for Sale.

Pure Breed Chester Pigs, 7 weeks old, \$25.00 per pair. Boxed and ready for shipment, address,

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THE KEYSTONE CIDER AND WINE MILL



Is so well known, and is so great a favorite, and has been for the past fifteen years, that we hardly feel that it is necessary to say much about it. They are sold from the State of Maine to the Gulf of Mexico, and are looked upon everywhere as the STANDARD MILL of the day. *There is hardly a Mill now made but is taken from the Keystone, and is as near like it as the patents will admit.*

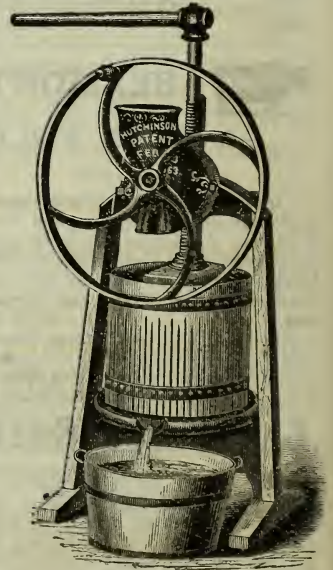
This mill will make twenty five per cent. more cider from the same quantity of apples than any other portable mill in the market, and with more ease, and is much more durable. Price - - - \$40.

E. WHITMAN & SONS,
Manufacturers and Sole Agents for
BALTIMORE, MD.

THE HUTCHINSON CIDER AND WINE MILL.

This Mill is used extensively for family use for making Blackberry and other Wines and Cordials, and also for making Cider. For the purposes for which it is designed, viz., a cheap Mill for family use, it has no equal, of which the thousands sold annually are an abundant proof. We have during the last few years sold hundreds of them and can unhesitatingly recommend them.

Price \$22.



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MANUFACTURERS OF

AGRICULTURAL IMPLEMENTS AND MACHINERY,

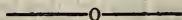
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GARDEN AND FIELD SEEDS,

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Offer to the farmers of Maryland and the Southern States the following valuable Labor-Saving Implements and Machinery, the most of which are of their own manufacture, and are guaranteed to give entire satisfaction to the farmer and planter :

"ADVANCE MOWER" or **"IMPROVED MONITOR"**—the simplest, strongest and most efficient Mower in the country.

"NEW YORKER" Self-Rake Reaper and Mower, and REAPER only.

"CHAMPION" Reaper and Mower, with either Self-Rake or Dropper Attachment.

Maryland Sulky Self-Discharging HAY AND GRAIN RAKE—the best in use.

"PHILADELPHIA" HAND AND HORSE LAWN MOWERS. Warranted the best in use.

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SINCLAIR'S Southern Iron-Brace Grain Cradles.

"Scully's" Patent CIDER AND WINE MILL AND PRESS COMBINED, unequalled for efficiency.

THRASHERS AND SEPARATORS. "Geiser's," "Westinghouse's" "Wheeler's," and other first-class Cleaners.

HORSE POWERS—"Pelton's" Triple Gear, some 5 sizes. Spur Gear Powers, and other good varieties.

"Sinclair's" Patent Screw Propellers and Masticators, for cutting Corn Stalks, Hay and Straw for cattle feeding. These are the premium Cutters of this country.

CORN SHELLERS—All kinds and sizes, both for hand and horse power.

SINCLAIR'S PATENT CORN PLANTER, which plants the Corn any distance required, covers and rolls the land—the most perfect Planter of the day.

GARDEN DRILLS—"Comstock's," "Wethersfield," Planet and other Seed Drills.

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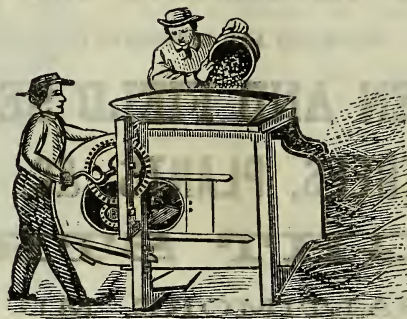
Wheat Fans, Pumps, Improved Churns, Horse Shovels, Plows, Harrows, Cultivators, all kinds and sizes. Plow and Machine Castings, Agricultural and Horticultural Hardware.

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MONTGOMERY'S ROCKAWAY WHEAT FANS.



Have been proven by a great many trials, in which they have beaten every Fan of any pretensions sold in the Southern States, to be undoubtedly the best Wheat Fan ever invented.

The Committees of one hundred and forty-five Fairs have decided that it was the best, and have given it the premium.

In the fall of 1870 it competed with all the Fans made in Maryland, Virginia and the adjoining States, and in every case came out victorious, persons being surprised to see with what ease it defeated Fans claiming great improvements.

It is the only Fan that will take garlic out of wheat.

It is the only Fan that will take oats out of wheat with any degree of certainty.

It will separate corn, gravel, rat filth, &c., from wheat.

It will take out more cockle than any other Fan.

It is the cheapest Fan in the market when you take into consideration the substantial manner in which it is made, and the number of sieves and screens to each Fan, and other valuable arrangements for separating oats, garlic, cheat, gravel, &c., from the wheat.

Each Fan is made under the superintendence of the inventor, who has for the past thirty years devoted his entire attention to the manufacture of Fans.

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Excelsior Wheat Fans.

These are as good as any Fan in the market excepting the Montgomery.

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POINTS OF EXCELLENCE.

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Using both threads directly from the spools.

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THE ANDREW COE Super-Phosphate & Lime

Manufactured only by E. WHITMAN & SONS,
From Ground Bone, Peruvian Guano, Sulphuric Acid and Potash.
IS THE MOST RELIABLE PHOSPHATE IN THE MARKET.
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Its Superior an Impossibility.

Analysis July 14th, 1871:

Ammonia.....	4.38
Bone Phosphate of Lime.....	49.51

Which is the highest analysis yielded by pure bone. The largest particles are smaller than clover seed.

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We have sold hundreds of tons of this Bone, and it has invariably given satisfaction. Peruvian Guano, South Carolina Bone (fine ground or dissolved,) Plaster, Sulphuric Acid, and all kinds of Fertilizer materials always on hand and for sale at the lowest market prices.

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FOR CISTERNS & WELLS OF ANY DEPTH
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 Every Pump warranted.

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AMMONIATED**

Bone Super-Phosphate.

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Composed of the most concentrated materials, it is richer in Ammonia and Soluble Phosphates than any other fertilizer sold, except our "EXCELSIOR," and is made with same care and supervision. Uniform quality guaranteed. Fine and dry, in excellent order for drilling. Packed in bags and barrels. ~~At~~ PRICE \$50 PER TON.

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
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Polished, Hardened Steel and Cast Iron. Farquhar's Cast Steel Model Plow, one and two horse, warranted in any soil, and under all circumstances, *second to none*.—American Clipper, Full Steel, one, two and three horse. Atwood and Ohio Cast Plows, two and three horse. Subsoil Plows, Steel soled, two and three horse. Hillside or Swivel Plows, &c., &c.

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Having improved Blanchard machinery for the manufacture of Plow Handles upon an extensive scale, I can supply first quality Handles, side bent to order for any pattern of plow.

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